



**Department of Public Health
Communicable Disease Section**



2015 Annual Morbidity Report

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ACKNOWLEDGEMENTS

This report was prepared by Kim Woods, MPH of the Communicable Disease Section (CDS), Silvera Erari, MPH student, Loma Linda University, Ruhi Nath, Public Health Associate courtesy of Centers for Disease Control and Prevention (CDC) and Jasmine Winn, of the Communicable Disease Section (CDS). Others contributing to this report include: Maxwell Ohikhuare, MD, Health Officer; Susan Strong, NP, MSN, CDS Program Manager; Lea Morgan, MPH, CDS Program Coordinator; and other members of CDS including Carmen Arias, Monica Butler, Margie Castaneda, Linda Castanon, Maria Cota, Stacey Davis, MPH, Becky Fierro-Vidana, Heather Griffis, Laura Guevara, Pilar Guillén, Diane Hardy, Jenny Hernandez, BSN, Maricela Hernandez, Bac Lam, Tanya Martinez, Suzanna Martinez, Katherine Myers, Leticia Navarette, Mayra Parga, Denise Ramirez, Jennifer Rosales, Celia Saucedo, Terri Serna, Olubukola Teiko, Beverly Villa, Vicki Williams and Sidra Wilson, LVN.

This report presents a summary of communicable diseases reported in San Bernardino County in 2015. The contents are divided into two sections:

Section 1 – Summary of Reported Communicable Diseases

- Reported Communicable Diseases by Age Group
- Reported Communicable Diseases by Race/Ethnicity

Section 2 – Incidence Rates for Selected Diseases by Primary Mode of Transmission

- Diseases Preventable by Vaccine
- Diseases Transmitted by Fecal-Oral Route
- Diseases Transmitted by Sexual Contact
- Diseases Transmitted by Respiratory Secretions
- Diseases Associated with Environmental Factors
- Diseases Transmitted by Mammalian Vectors
- Diseases Transmitted by Arthropod Vectors
- Diseases of Global Importance

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INTRODUCTION

"In public health, we can't do anything without surveillance. That's where public health begins."

David Satcher, MD, PhD, U.S. Surgeon General, 1998-2002

Public health surveillance is the continuous, systematic collection, analysis and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice.

The Communicable Disease Section of the San Bernardino County Department of Public Health has the responsibility for the collecting, monitoring and control of communicable disease information. State law requires medical providers, hospitals, and laboratories to report selected diseases and conditions to the local health department. The local health department is then required to investigate the extent of these illnesses, report to the California Department of Public Health the number of said diseases, and apply control measures when necessary. As part of the investigation process, interviews of the affected persons and, in some instances, family members, friends and associates are conducted. The San Bernardino County Department of Public Health uses a confidential database to track reportable diseases and conditions, record investigations and report to the California Department of Public Health.

Surveillance with analysis and interpretation helps identify demographic groups at higher risk of illness, disease trends and disease outbreaks shaping public health interventions. We hope that you find this data useful.

Thank you for your interest,



Susan Strong, NP, M.S.N.

Communicable Disease Program Manager

Why Reporting of Communicable Disease is Important

The San Bernardino County Department of Public Health is charged by California Code of Regulations (CCR) Title 17 with protection of the health of the County's visitors and more than 2.0 million residents. To fulfill this responsibility, the Department carries out a broad and comprehensive public health program which includes public health services mandated by the State of California, a substantial range of personal health services requested by the people and chosen as priority matters by the San Bernardino County Board of Supervisors.

Physicians and other healthcare providers, personnel in laboratories, schools, daycare centers and other residential facilities are obligated by law to report certain communicable diseases to the local department of public health. Monitoring reports of communicable disease in a community allows the Department of Public Health to fulfill its mandate of protecting the health of its residents. With timely disease reporting, the Department of Public Health can evaluate the impact of a given disease and make appropriate recommendations to limit its further spread.

Delay or failure to report communicable diseases has contributed to serious outbreaks in the past. Failure to report can result in increased disease in the community, time lost from work or school, increased costs for diagnosis and treatment, hospitalization, and possibly death.

When reporting does occur, removing persons from sensitive occupations, (e.g. food handlers) prevents the spread of diseases such as salmonellosis and hepatitis A. The early detection and appropriate treatment of patients with tuberculosis, the identification of asymptomatic carriers of typhoid, the immunization of persons exposed to vaccine-preventable diseases and alerting healthcare providers about prevalent infections are just a few of the benefits derived by the entire community when reporting is timely and accurate.

Purpose of the Communicable Disease Report

The San Bernardino County Department of Public Health summary of communicable disease promotes the wellness element of the Countywide Vision by describing the health and safety of the County's residents and visitors. For more information about the Countywide Vision, Job Statement and Paradigm, visit www.sbcounty.gov. This report describes the extent and prevalence of various reported illnesses for the residents in this County. Where the impact of a certain disease in a particular group of individuals appears high, this information can be used to redirect disease control efforts. The report helps evaluate the effectiveness of the County's disease prevention and control programs by comparing San Bernardino County rates with those of California and the U.S. It represents an evolving effort by several disease control programs in the County. As the communicable disease concerns of our residents change, the data collected and summarized in this report will also change.

DATA LIMITATIONS

The obligation for health care professionals to report designated diseases and conditions to their local department of public health is mandated by Title 17, Sections 2500, 2504 and 2505 of the California Code of Regulations. The data presented in this report were tabulated from disease reports received from laboratories, hospitals, physicians, schools and other healthcare providers throughout the County. The cases were reported through a passive surveillance system. For this reason, two major limitations must be acknowledged when interpreting these data.

The first major limitation is the underrepresentation of the true burden of disease. It is clear that not every reportable disease or condition is actually identified by or reported to the Department of Public Health. Individuals may not be ill enough to require medical care or the healthcare provider may not request testing of the patient at the time of the office visit. Diseases and conditions reportable only by healthcare providers (see Appendix C) are significantly underreported. Illnesses that are fatal, require prophylaxis for prevention, or those that are reportable by both laboratories and physicians are more likely to be reported.

Additionally, public health data may not reflect County residents' true risk of exposure to a particular pathogen. Individuals identified as having a notifiable condition are reported by place of residence, not by place of exposure. Immigrants and other individuals who travel both domestically and abroad may acquire an unusual illness or other condition at the location of travel. These individuals are nevertheless counted in San Bernardino County morbidity data if their address of residence is within the County at the time of their illness. Conversely, residents who visit the County of San Bernardino may acquire an infection here and subsequently be reported by the health jurisdiction in which they permanently reside.

Finally, one other important note regarding changes in our communicable disease data: prior to June of 2011, disease morbidity was calculated based on the date the case investigation was closed and reported to the California Department of Public Health. Beginning in June 2011, cases were counted by an "Episode Date." This date is calculated as the earliest of the following dates (if the dates exist): Date Received, Date of Diagnosis, Date of Onset, Specimen Collection Date, or Date Created. This change in methodology may only affect comparison of previous years' data in diseases where seasonality is relevant.

HOW TO INTERPRET THIS REPORT

This report contains epidemiological descriptions of reportable diseases as well as a ten-year incidence rate analysis of the disease stratified by race/ethnicity and age. The features of the disease pages are described below.

Although many communicable diseases may be transmitted by more than one mechanism, in this report they are categorized by *primary* mode of transmission.

San Bernardino County Communicable Disease Report 2015
→ DISEASES TRANSMITTED BY SEXUAL CONTACT

PRIMARY/SECONDARY SYPHILIS

Infectious Agent: *Treponema pallidum*
Mode of Transmission: Contact with syphilis chancre on the genitalia, anus, or mouth, or during pregnancy or birth
Incubation Period: 21 days (range: 10-90 days)
Symptoms: Chancre, rash including palms and soles of feet, lymphadenopathy, sore throat, hair loss, muscle aches

Each selected disease is accompanied by a commentary section that includes general disease facts and local epidemiological insight.

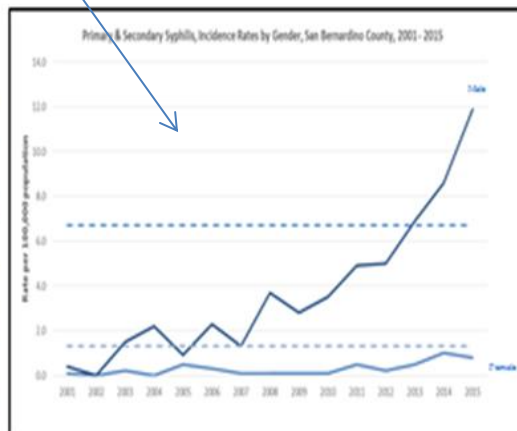
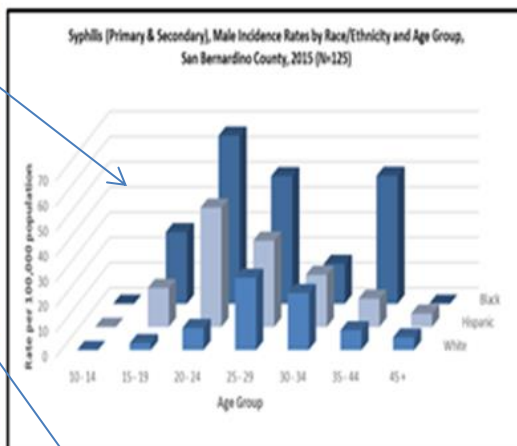
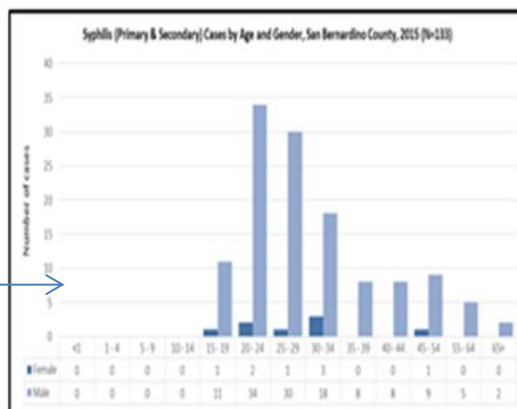
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2015 REVIEW

- In San Bernardino County, 94% of cases are males and half of all cases are in the 20-29 year old age group.
- A painless chancre is usually the first symptom, appearing at the site of the infection, lasting 3-6 weeks and healing whether the person was treated or not. The characteristic rash of the secondary stage appears as non-itchy, rough, red or reddish brown spots on the palms of the hands and the bottoms of the feet or other areas.
- The number of primary and secondary (P&S) cases, the most infectious stages, increased 329% in the County from 2010-2015.
- Among 2015 CA cases, the highest proportion of methamphetamine use was reported by females (25%).
- In 2015 among County cases, Blacks had rates two times that of Hispanics and Whites.
- In 2014 MSM account for 83% of P&S cases among men in the US.
- In the US in 2014, the West had the highest rate of P&S cases with increases seen in male and female rates in every region of the US.
- Nationally 51.2% of P&S cases among MSM are HIV-positive compared to 10.7% among heterosexual males and 5.9% of women.
- Among 2014 CA cases, 47.0% of MSM with P&S are HIV-positive.

PREVENTION

- Condoms if used correctly and consistently may prevent infection.
- Pregnant women should be screened at their first prenatal visit or more often if at increased risk.
- High risk individuals (HIV-infected, MSM, those with multiple sex partners) should be screened annually or as often as every 3-6 months for both syphilis and HIV if negative.
- P&S syphilis is easily treated with one penicillin injection; however it will not repair any damage already done.
- Individuals diagnosed with P&S syphilis should abstain from sex until after treatment and the chancre has healed (if visible).
- Individuals with sexually transmitted diseases such as P&S syphilis are also at increased risk of HIV and may benefit from an HIV pre-exposure (PrEP) regimen.



HOW TO INTERPRET THIS REPORT (CONTINUED)

San Bernardino County Communicable Disease Report 2015

DISEASES TRANSMITTED BY SEXUAL CONTACT

For each selected disease, a ten-year (2005-2015) trending of race/ethnicity distribution among all reported cases is presented in a data table.

Syphilis (All Stages) Cases by Race/Ethnicity

San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	20	13	8	16	31	19	33	37	48	76	85
Black	16	28	17	21	26	23	29	40	60	61	85
Hispanic	60	60	32	85	87	75	128	117	141	196	277
Asian/PI	7	1	1	6	5	1	6	8	7	7	13
Native Am.	0	0	0	0	1	0	0	3	1	0	3
				0	0	0	5	2	3	11	8
				54	51	41	61	75	75	42	35
				182	201	159	260	282	335	393	506

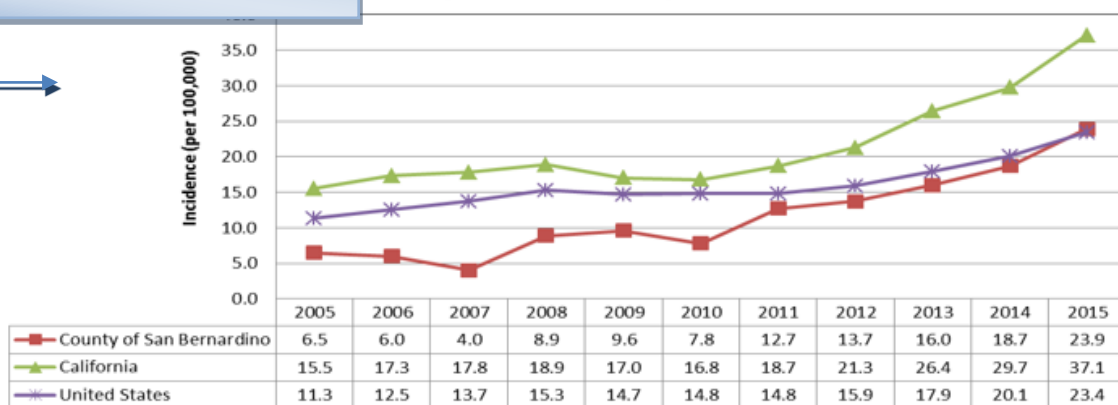
For each selected disease, a ten-year (2005-2015) trending of age distribution among all reported cases is presented in a data table.

Syphilis (All Stages) Cases by Age

San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	3	0	0	3	1	0	0	1	4	4	4
1 - 4	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0	0	0
10 - 14	0	1	0	0	0	0	0	0	0	0	0
15 - 19	11	4	2	9	16	9	19	20	21	22	34
20 - 24	9	7	9	22	37	43	72	71	84	74	124
25 - 29	18	15	6	28	31	25	52	50	82	83	110
30 - 34	16	13	3	13	19	19	31	26	40	54	82
35 - 39	19	15	9	24	25	13	20	24	26	47	43
40 - 44	17	23	13	33	24	17	17	23	20	27	38
45 - 54	15	25	19	29	38	23	35	45	41	61	45
55 - 64	10	12	10	7	9	5	7	16	14	19	22
>65	9	3	9	14	1	5	7	6	3	2	4
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	127	118	80	182	201	159	260	282	335	393	506

Data sources applicable to all pages of this report are referenced in Appendix E.

Rates for Syphilis (All Stages) in San Bernardino County, California, and the United States, 2005-2015



SECTION 1

SUMMARY OF REPORTED COMMUNICABLE DISEASES

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TABLE 1*: REPORTED COMMUNICABLE DISEASES BY AGE GROUP (IN YEARS)
SAN BERNARDINO COUNTY, 2015

Disease Category	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-54	55-64	>65	Unknown	Total
AIDS	0	0	0	0	1	3	9	9	9	5	14	7	1	0	58
Amebiasis	0	0	0	0	1	0	0	1	1	1	1	0	1	0	6
Animal bite/exposure	0	0	0	0	0	0	1	4	0	0	1	2	2	0	10
Anthrax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Botulism, Infant	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Botulism, Wound	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Brucellosis	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Campylobacteriosis	14	23	18	8	18	23	19	12	13	8	18	31	28	0	233
Chikungunya	1	0	0	2	0	0	0	1	0	2	2	1	0	0	9
Chlamydial Infections ¹	3	0	0	56	2412	4362	2216	968	461	230	190	63	11	45	11017
Cholera ²	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coccidioidomycosis	0	0	0	1	1	1	1	1	4	4	11	9	3	0	36
Creutzfeldt-Jakob Disease	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
Cryptosporidiosis	0	0	2	0	1	0	0	1	0	1	1	0	0	0	6
Cysticercosis	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
Dengue	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
DMV Reportable	2	1	1	0	61	174	159	138	120	94	204	156	248	20	1378
E. coli O157:H7	0	1	0	1	0	0	0	0	0	1	0	0	1	0	4
Encephalitis - Bacterial	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Encephalitis - Not Otherwise Specified	1	2	1	0	0	0	0	0	0	0	0	0	1	0	5
Encephalitis, Viral	0	0	0	0	0	0	0	0	2	0	1	1	2	0	6
Giardiasis	0	5	1	3	1	4	0	2	5	5	10	9	3	0	48
Gonococcal Infections ^{1,3}	0	0	1	10	469	885	618	307	175	113	101	48	11	5	2743
Haemophilus Influenzae (Invasive) ⁴	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Hantavirus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hepatitis A	0	0	0	0	0	0	0	0	1	0	2	0	1	0	4
Hepatitis B, Acute	0	0	0	0	0	1	0	0	2	2	4	4	0	0	13
Hepatitis B, Chronic	0	0	0	1	5	20	47	89	82	61	95	91	46	0	537
Hepatitis C, Acute	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Hepatitis C, Chronic ⁵	13	1	1	6	25	198	251	281	295	289	1236	1621	671	5	4893
Hepatitis D (Delta)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hepatitis E, Acute	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
HIV ⁷	0	0	0	0	10	30	29	15	19	14	29	11	1	0	158
Influenza	74	126	145	62	54	44	44	34	17	26	66	61	154	1	908
Influenza ICU Hospitalization/Death	1	3	3	0	1	1	1	1	0	0	1	3	0	0	15
Legionellosis	0	0	0	0	1	0	0	0	0	2	3	2	17	0	25
Leprosy (Hansen's Disease)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptospirosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Listeriosis	0	0	0	0	0	0	0	0	1	0	0	1	1	0	3
Lyme Disease	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Malaria	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3
Measles	3	2	0	0	0	2	0	4	1	0	0	0	0	0	12
Meningitis - Bacterial ⁶	0	0	2	1	0	0	0	0	1	0	3	4	4	0	15
Meningitis - Fungal	0	0	0	0	0	0	2	0	1	1	2	1	1	0	8
Meningitis - Not Otherwise Specified	0	0	1	0	1	1	0	0	0	1	2	1	1	0	8
Meningitis - Viral	7	3	4	9	10	10	5	9	5	5	10	4	9	0	90
Meningococcal Disease (Invasive)	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
Methicillin-resistant Staphylococcus aureus (MRSA)	0	0	0	0	0	0	1	0	0	0	1	0	1	0	3
Mumps	0	1	2	0	0	1	0	0	0	2	0	0	1	0	7

* See Appendices D and E for Footnotes and Data Sources for Table 1

TABLE 1*: REPORTED COMMUNICABLE DISEASES BY AGE GROUP (IN YEARS), 2015 (CONT'D)

Disease Category	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-54	55-64	>65	Unknown	Total
Outbreak, Foodborne	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Outbreak, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Paratyphoid Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pelvic Inflammatory Disease	0	0	0	0	5	16	7	5	6	8	3	0	0	0	50
Pertussis	16	12	11	27	14	3	0	1	0	1	4	1	1	0	91
Pneumococcal Disease, Invasive	2	1	0	1	0	0	2	0	1	1	5	7	10	0	30
Q Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rabies (Animal)	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
Respiratory Syncytial Virus (RSV)	281	243	19	4	3	0	2	1	2	1	3	9	31	6	605
Rheumatic Fever, Acute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rocky Mountain Spotted Fever	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Rubella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Salmonellosis (Other than Typhoid Fever)	19	35	22	14	13	13	15	13	18	9	23	28	40	0	262
Scombroid Fish Poisoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shiga toxin positive feces	0	0	0	0	0	0	0	0	1	1	0	1	0	0	3
Shigellosis, Group B (Flexneri)	0	1	1	0	1	0	0	2	0	1	3	1	1	0	11
Shigellosis, Group C (Boydii)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shigellosis, Group D (Sonnei)	0	6	7	1	0	2	0	1	1	1	3	1	3	0	26
Shigellosis, Unspecified	0	2	0	0	0	1	2	0	1	0	1	0	3	0	10
Staphylococcus Aureus Infection (Severe Case)	0	0	0	0	0	0	0	1	0	0	2	1	0	0	4
STEC non-O157	2	4	5	1	2	0	0	0	0	0	1	2	0	0	17
Syphilis (Congenital)	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Syphilis (Early Latent)	0	0	0	0	9	27	17	18	11	8	12	6	1	0	109
Syphilis (Late/Latent, Unknown Duration)	0	0	0	0	13	61	62	43	24	22	23	11	1	0	260
Syphilis (Primary)	0	0	0	0	7	20	15	5	1	1	4	3	2	0	58
Syphilis (Secondary)	0	0	0	0	5	16	16	16	7	7	6	2	0	0	75
Tuberculosis, Clinically Active	0	3	2	0	0	8	1	6	3	2	14	11	19	0	69
Typhoid Fever	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Typhus and Other Non-Spotted Fever Rickettsioses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Varicella Hospitalization/Death	1	0	0	0	0	0	0	1	0	0	1	0	0	0	3
Vibrio Infections (Non-Cholera) ²	0	0	0	0	1	0	0	0	1	0	2	0	2	0	6
West Nile virus - Asymptomatic	0	0	0	0	0	0	0	1	0	1	0	2	2	0	6
West Nile virus - Fever	0	0	0	0	0	0	1	0	0	0	1	3	2	0	7
West Nile virus - Neuroinvasive	0	0	0	0	0	0	1	2	1	1	11	12	19	0	47
Yersiniosis	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1

* See Appendices D and E for Footnotes and Data Sources for Table 1

TABLE 2*: REPORTED COMMUNICABLE DISEASES BY RACE/ETHNICITY
SAN BERNARDINO COUNTY, 2015

Disease Category	American Indian/ Alaska Native	Asian/Pacific Islander	Black/African-American	Hispanic	White	Other	Unknown	Total
AIDS	2	4	10	30	10	0	2	58
Amebiasis	0	0	0	3	2	0	1	6
Animal bite/exposure	0	0	1	2	7	0	0	10
Anthrax	0	0	0	0	0	0	0	0
Botulism, Infant	0	0	0	3	0	0	0	3
Botulism, Wound	0	0	0	1	1	0	0	2
Brucellosis	0	0	0	1	0	0	0	1
Campylobacteriosis	1	9	5	42	61	49	66	233
Chikungunya	0	0	0	8	0	0	1	9
Chlamydial Infections ¹	37	103	1046	1858	953	907	6113	11017
Cholera ²	0	0	0	0	0	0	0	0
Coccidioidomycosis	0	1	5	11	9	2	8	36
Creutzfeldt-Jakob Disease	0	0	0	0	2	0	0	2
Cryptosporidiosis	0	0	1	2	0	2	1	6
Cysticercosis	0	0	0	2	0	0	0	2
Dengue	0	0	0	2	0	0	0	2
DMV Reportable	4	21	154	273	357	14	555	1378
E. coli O157:H7	0	0	0	2	0	1	1	4
Encephalitis - Bacterial	0	0	0	0	1	0	0	1
Encephalitis - Not Otherwise Specified	0	0	0	2	3	0	0	5
Encephalitis - Viral	0	1	0	2	1	0	2	6
Giardiasis	0	0	0	6	4	7	31	48
Gonococcal Infections ^{1,3}	3	19	476	516	299	163	1267	2743
Haemophilus Influenzae (Invasive) ⁴	0	0	1	0	1	0	0	2
Hantavirus Infections	0	0	0	0	0	0	0	0
Hepatitis A	0	1	0	1	2	0	0	4
Hepatitis B, Acute	0	0	1	4	8	0	0	13
Hepatitis B, Chronic	0	246	33	63	45	48	102	537
Hepatitis C, Acute	0	0	0	1	1	0	0	2
Hepatitis C, Chronic ⁵	6	10	142	136	411	191	3997	4893
Hepatitis D (Delta)	0	0	0	0	0	0	0	0
Hepatitis E, Acute	0	0	0	1	0	0	0	1
HIV ⁷	4	8	35	84	25	0	2	158
Influenza	1	12	66	48	322	73	386	908
Influenza ICU Hospitalization/Death	0	1	2	7	4	0	1	15
Legionellosis	0	0	6	8	8	1	2	25
Leptospirosis	0	0	0	0	0	0	0	0
Leprosy (Hansen's Disease)	0	0	0	0	0	0	0	0
Listeriosis	0	0	0	1	0	1	1	3
Lyme Disease	0	0	0	0	1	0	0	1
Malaria	0	0	3	0	0	0	0	3
Measles (Rubeola)	0	0	0	10	2	0	0	12
Meningitis - Bacterial ⁶	0	0	1	6	6	0	2	15
Meningitis - Fungal	0	1	1	5	1	0	0	8
Meningitis - Not Otherwise Specified	0	0	0	2	5	0	1	8
Meningitis - Viral	0	3	10	48	21	6	2	90
Meningococcal Disease (Invasive)	0	0	0	2	0	0	0	2
Methicillin-resistant Staphylococcus aureus (MRSA)	0	0	0	0	1	0	2	3
Mumps	0	1	0	4	1	0	1	7

* See Appendices D and E for Footnotes and Data Sources for Table 2

TABLE 2*: REPORTED COMMUNICABLE DISEASES BY RACE/ETHNICITY**SAN BERNARDINO COUNTY, 2015 (CONTINUED)**

Disease Category	American Indian/ Alaska Native	Asian/Pacific Islander	Black/African-American	Hispanic	White	Other	Unknown	Total
Outbreak, Foodborne	0	0	0	0	0	0	0	0
Outbreak, Other	0	0	0	0	0	0	6	6
Paratyphoid Fever	0	0	0	0	0	0	0	0
Pelvic Inflammatory Disease	0	0	4	18	16	2	10	50
Pertussis	1	4	0	37	33	5	11	91
Pneumococcal Disease, Invasive	0	1	5	8	11	2	3	30
Q Fever	0	0	0	0	0	0	0	0
Rabies (Animal)	0	0	0	0	0	0	8	8
Respiratory Syncytial Virus (RSV)	0	11	43	247	116	15	173	605
Rocky Mountain Spotted Fever	0	0	0	1	0	0	0	1
Rubella	0	0	0	0	0	0	0	0
Salmonellosis (Other than Typhoid Fever)	2	8	19	110	99	10	14	262
Shiga toxin positive feces	0	0	0	1	1	0	1	3
Shigellosis, Group A (Dysenteriae)	0	0	0	1	0	0	0	1
Shigellosis, Group B (Flexneri)	0	0	0	4	5	1	1	11
Shigellosis, Group C (Boydii)	0	0	0	0	0	0	0	0
Shigellosis, Group D (Sonnei)	0	0	4	15	3	0	4	26
Shigellosis, Unspecified	0	1	0	2	5	1	1	10
Staphylococcus Aureus Infection (Severe Case)	0	0	0	2	2	0	0	4
STEC non-O157	0	0	1	9	4	1	2	17
Syphilis (Congenital)	0	0	0	1	0	0	3	4
Syphilis (Early Latent)	0	3	17	63	17	2	7	109
Syphilis (Late/Latent, Unknown Duration)	1	4	48	138	40	6	23	260
Syphilis (Primary)	1	3	7	38	9	0	0	58
Syphilis (Secondary)	1	3	13	37	19	0	2	75
Tuberculosis, Clinically Active	0	28	3	36	2	0	0	69
Typhoid Fever	0	0	0	0	0	1	0	1
Varicella Hospitalization/Death	0	1	0	1	1	0	0	3
Vibrio Infections (Non-Cholera)2	0	0	0	2	3	0	1	6
West Nile virus - Asymptomatic	0	0	0	0	5	0	1	6
West Nile virus - Fever	0	0	0	2	4	0	1	7
West Nile virus - Neuroinvasive	0	0	1	24	18	0	4	47
Yersiniosis	0	0	0	1	0	0	0	1

* See Appendices D and E for Footnotes and Data Sources for Table 2

SECTION 2

INCIDENCE DATA FOR SELECTED DISEASES BY PRIMARY MODE OF TRANSMISSION

HEPATITIS B (ACUTE)

Infectious Agent: hepatitis B virus (HBV)

Mode of Transmission: Contact with infected body fluids containing blood or blood products; saliva; cerebrospinal fluid; peritoneal, pleural, pericardial and synovial fluid; amniotic fluid; semen and vaginal secretions

Incubation Period: 60-90 days on average (range: 45-180 days)

Symptoms: Anorexia (loss of appetite), abdominal discomfort, nausea and vomiting, arthralgias and rash, jaundice, and in some cases fever.

Vaccine: Available since 1982

For more information: <http://www.cdc.gov/hepatitis>

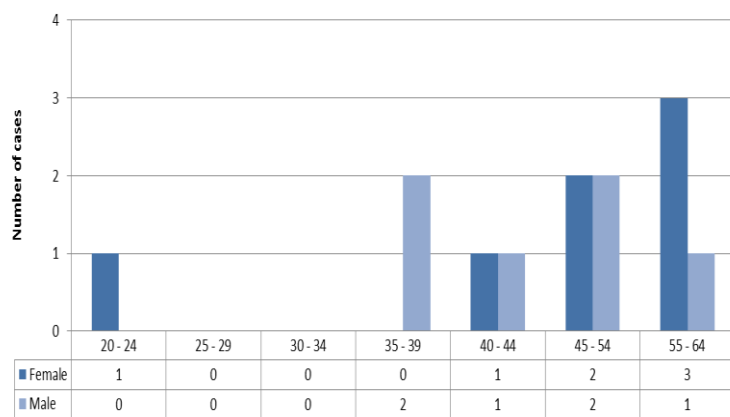
2015 REVIEW

- Numbers of reported cases increased by about half from 9 to 13 cases. County incidence rates surpassed that of California briefly in 2012 and 2014. Both CA and the US show a general trending down of rates.
- The greatest proportion of cases occurred among White (61.5%) and Hispanic (30.8%) populations, comparable to previous years.
- Cases are concentrated in the adult population over 35 years of age.
- Fifty-three percent of cases occurred in females.
- An additional 537 individuals were reported with chronic infection in 2015 in the county.
- The most commonly reported risk was sexual contact and intravenous drug use (IDU). Other major risk factors observed in previous years were tattoos, body piercing, and incarceration. In some cases, individuals had multiple risk factors.
- HBV is 50-100 times more infectious than HIV and can survive outside of the body for 7 days.
- Numbers of HBV infections nationally have decreased by 82% since 1991 when routine vaccination of children began.

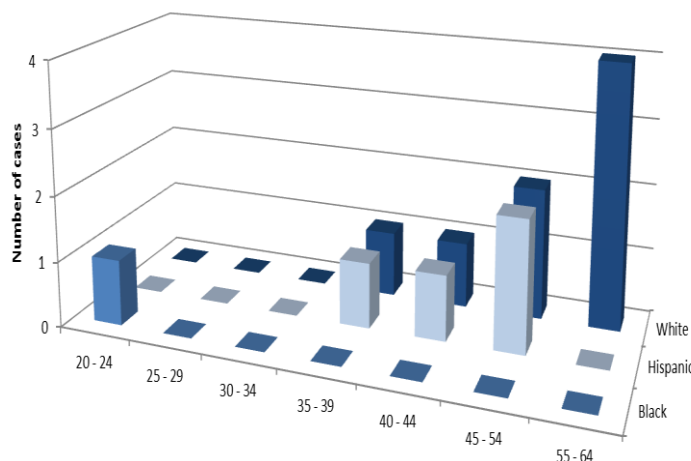
PREVENTION

- Children should receive the first dose of the HBV vaccine at birth and complete the series of three shots by age 6-18 months.
- Infants born to infected mothers should be vaccinated and receive HBIG (HBV immune globulin) within 12 hours of birth; 90% of infected infants develop chronic infection without this intervention and are therefore at higher risk for liver cancer and cirrhosis.
- People who are at high risk (e.g. injection drug users, men who have sex with men, incarcerated persons, hemodialysis patients), healthcare workers and contacts of infected individuals, should receive the HBV vaccine.
- Use a condom consistently and correctly.
- Limit sharing of personal items such as razors or toothbrushes and use sterile needles for tattoos, piercings, and injections.
- Surfaces contaminated with blood should be disinfected with a 1:10 bleach and water solution while wearing gloves.

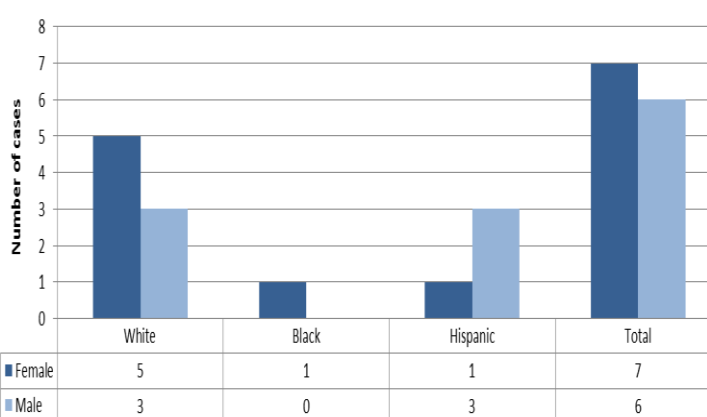
Hepatitis B (Acute) Cases by Age and Gender, San Bernardino County, 2015 (N=13)



Hepatitis B (Acute) Cases by Age and Race/Ethnicity, San Bernardino County, 2015 (N=13)



Hepatitis B (Acute) Cases by Race/Ethnicity and Gender, San Bernardino County, 2015 (N=13)

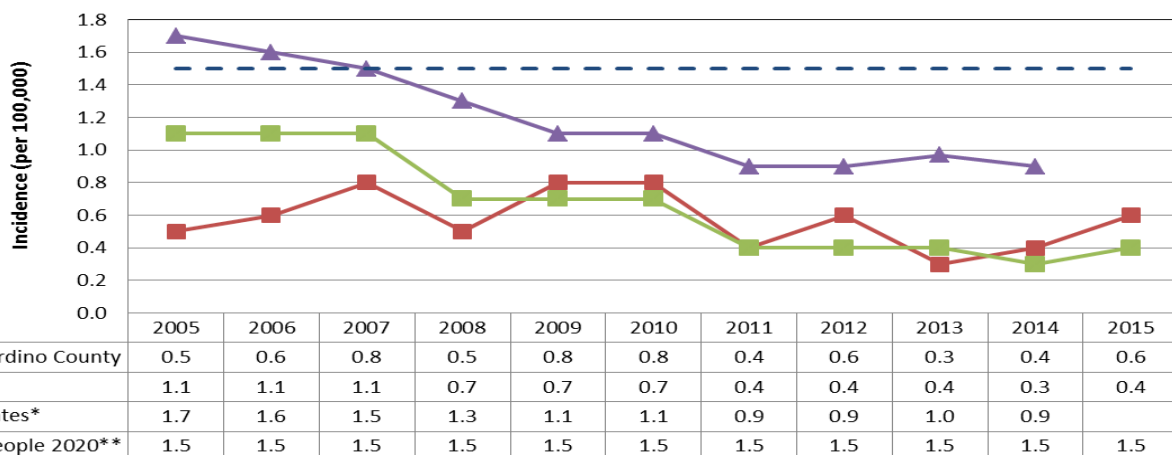


HEPATITIS B (ACUTE)

Hepatitis B (Acute) Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	2	3	8	5	4	4	2	4	4	5	8
Black	2	3	3	1	4	2	1	1	0	1	1
Hispanic	3	1	5	2	5	7	4	7	2	3	4
Asian/PI	0	2	1	0	1	3	0	0	0	0	0
Native Am.	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
Unknown	2	2	0	2	2	1	1	1	1	0	0
Total	9	11	17	10	16	17	8	13	7	9	13

Hepatitis B (Acute) Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	0	0	0	0	0	0	0	0	0	0	0
1 - 4	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0	0	0
10 - 14	0	0	0	0	0	0	0	0	0	0	0
15 - 19	1	0	0	0	0	0	1	0	0	0	0
20 - 24	4	0	1	0	1	0	0	0	0	0	1
25 - 29	1	2	2	2	1	3	0	0	0	0	0
30 - 34	0	2	2	2	3	3	0	2	0	1	0
35 - 39	2	2	1	1	2	2	2	2	1	1	2
40 - 44	1	0	5	0	2	3	0	2	2	5	2
45 - 54	0	4	6	4	2	2	3	6	0	2	4
55 - 64	0	1	0	0	2	3	2	0	3	0	4
>65	0	0	0	1	3	1	0	1	1	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	9	11	17	10	16	17	8	13	7	9	13

Incidence Rates for Hepatitis B (Acute) in San Bernardino County, California, and the United States, 2005-2015



*U.S. data for 2015 was not available at the time this report was published

** Healthy People 2020 rate is for adults (19 years old and older)

MEASLES

Infectious Agent: Measles virus

Mode of Transmission: Airborne, droplet spread or by contact with nasal or throat secretions of an infected person

Incubation Period: average 14 days (range: 7-21 days)

Symptoms: Fever, conjunctivitis, coryza, cough, Koplik spots, descending maculopapular rash with facial involvement.

Vaccine: MMR vaccine given at 12-15 months and at 4-6 years

For more information: <http://www.cdc.gov/measles/>

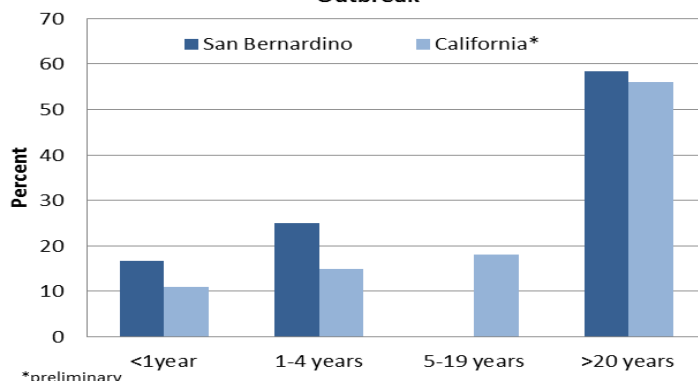
2015 REVIEW

- No measles cases were reported in the County from 1998-2000 and 2002-2013. One County case was reported in both 2001 and 2014, and 12 cases in 2015.
- A national outbreak started in California at Disneyland in December 2014 resulting in 189 US cases including 136 cases in California and 13 cases in this County.
- Of the 12 County cases reported in 2015, about half (41.7%) were in children 4 years and under, and half (58.3%) were in individuals aged 20-39 years.
- Sixty-six percent of cases were in males in 2015.
- The majority of County cases were in Hispanics (83.3%) followed by Whites (16.7%).
- Three (25%) County cases were linked to Disneyland, 5 (42%) to a household contact, and 4 (33.3%) had an unknown source of infection.
- Of the 11 cases with immunization history, 6 had 1 or more self-reported MMR vaccines. Five of the cases were unvaccinated due to being too young.
- Communicable Disease Section staff followed more than 500 contacts to these cases, prioritizing those at the highest risk of infection.
- Measles is highly contagious. The virus can live up to 2 hours in the room air after an infected person has left. Ninety percent of uninfected individuals will become infected if around an infected person.
- Twenty-five percent of County cases were hospitalized. Complications of measles can include ear infections, pneumonia, and encephalitis. For every 1000 cases, 1 will get encephalitis and 1-2 will die.
- Since measles vaccination started in 1963, there has been a 99% reduction in cases.

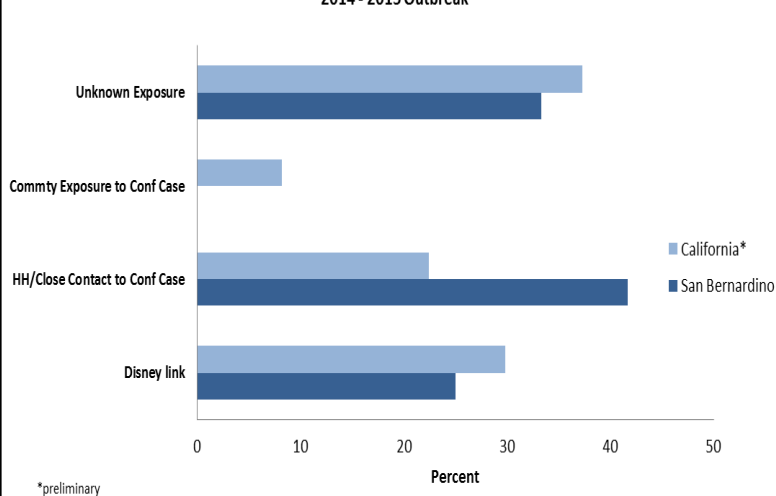
PREVENTION

- Keep your family and yourself up to date on recommended vaccines, including MMR.
- If you have been notified of an exposure, and are unvaccinated, consider staying home days 7- 21 after last exposure.
- Stay home for four days after your rash onset and try to minimize contact with other members of your household, especially babies and immunocompromised people who cannot be vaccinated.

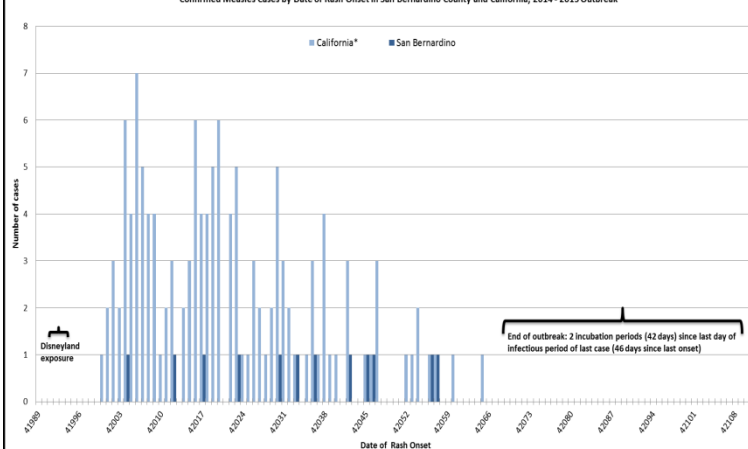
Age Distribution of Confirmed Measles Cases in San Bernardino County and California, 2014 - 2015 Outbreak



Risk/Exposure for Confirmed Measles Cases in San Bernardino County and California, 2014 - 2015 Outbreak



Confirmed Measles Cases by Date of Rash Onset in San Bernardino County and California, 2014 - 2015 Outbreak

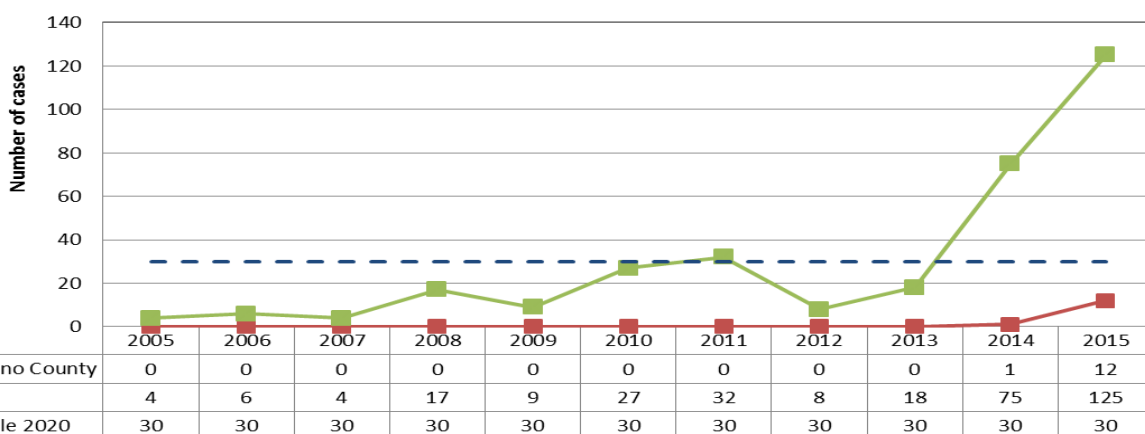


MEASLES

Measles Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	0	0	0	0	0	0	0	0	0	0	2
Black	0	0	0	0	0	0	0	0	0	0	0
Hispanic	0	0	0	0	0	0	0	0	0	1	10
Asian/PI	0	0	0	0	0	0	0	0	0	0	0
Native Am.	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	12

Measles Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	0	0	0	0	0	0	0	0	0	0	3
1 - 4	0	0	0	0	0	0	0	0	0	1	2
5 - 9	0	0	0	0	0	0	0	0	0	0	0
10 - 14	0	0	0	0	0	0	0	0	0	0	0
15 - 19	0	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0	2
25 - 29	0	0	0	0	0	0	0	0	0	0	0
30 - 34	0	0	0	0	0	0	0	0	0	0	4
35 - 39	0	0	0	0	0	0	0	0	0	0	1
40 - 44	0	0	0	0	0	0	0	0	0	0	0
45 - 54	0	0	0	0	0	0	0	0	0	0	0
55 - 64	0	0	0	0	0	0	0	0	0	0	0
>65	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	12

Measles Cases in San Bernardino County and California, 2005-2015



PERTUSSIS (WHOOPIING COUGH)

Infectious Agent: *Bordetella pertussis*, a Gram negative aerobic bacteria

Mode of Transmission: Airborne and direct contact with expulsions such as large droplets from respiratory mucous membranes of infected persons.

Incubation Period: 9-10 days on average (range: 6-21 days)

Symptoms: Paroxysmal coughs lasting 1-2 months, high-pitched whoop, expulsions of clear mucus, vomiting

Vaccine: Available since 1961

For more information: <http://www.cdc.gov/pertussis>

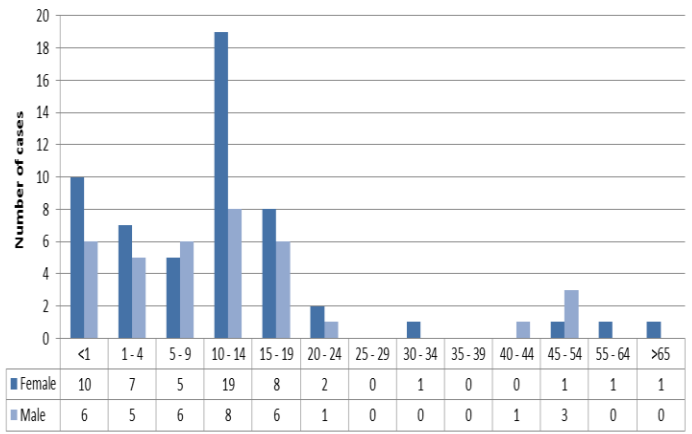
2015 REVIEW

- Numbers of County cases decreased 55% from 2014 to 2015. Incidence of pertussis statewide has decreased also indicating the 2014 statewide epidemic is slowing.
- The majority of cases are in children and teens 19 years and younger. Children 4 years and younger and 10-14 years of age account for about 30% of cases each in 2015.
- Whites (36.3%) and Hispanic (40.7%) populations comprised the greatest proportion of County cases, as seen in previous years. Incidence rates were also highest in Whites (4.9) and Hispanics (3.4). No pertussis cases were reported among County Blacks in 2015.
- More County females (60.4%) than males were reported with this infection in 2015.
- In general, about half of infected infants under 1 year of age will be hospitalized. Of every 100 infants infected, 1 will die. For teens and adults, 1 of every 20 will require hospitalization.
- The infection is the most contagious in the first 14 days after symptom onset. An infected individual can infect 12-15 other people.
- Pertussis immunity declines every year after completion of the series to about 75% after 4 years. Estimates are that immunity after infection lasts less than 20 years.
- Pertussis is cyclic, with peaks in cases every 3-5 years. Incidence has decreased more than 75% since the pre-vaccine era.

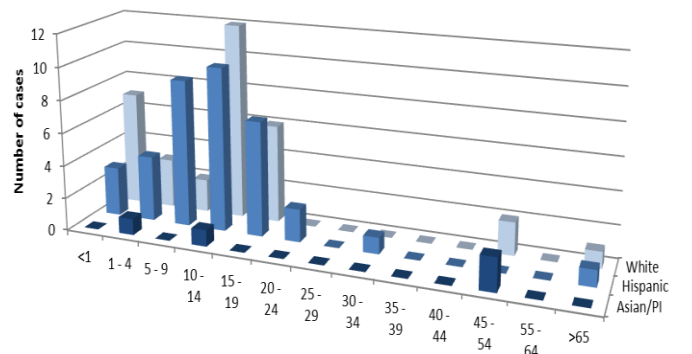
PREVENTION

- Vaccination is the best method to prevent pertussis. The DTaP vaccination protects children against pertussis infection and is usually given to children at ages 2 months, 4 months, 6 months, 15-18 months and 4-6 years. The Tdap vaccine should be given around age 11 or 12, and every 10 years thereafter.
- CDC now recommends that pregnant women receive a dose of Tdap during each pregnancy, preferably in the third trimester.
- Adults 65 years and older as well as health care personnel should be vaccinated according to guidelines.
- Ill individuals should cover their mouths and noses when sneezing or coughing and wash their hands afterwards.
- If possible, individuals with a cough should avoid being around infants and children who have not completed their vaccine series.

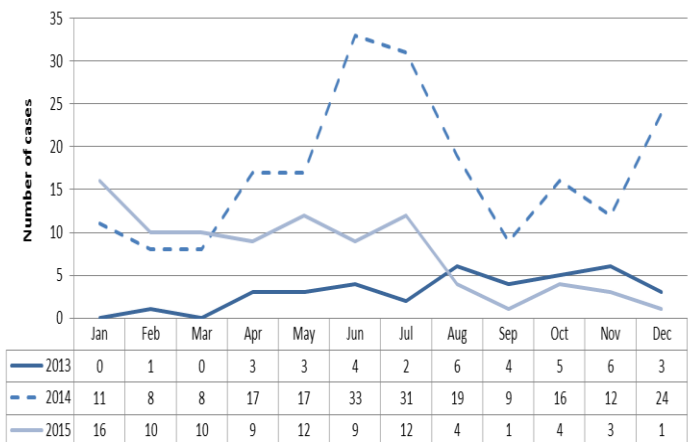
Pertussis Cases by Age and Gender, San Bernardino County, 2015 (N=91)



Pertussis Cases by Age and Race/Ethnicity, San Bernardino County, 2015 (N=74)



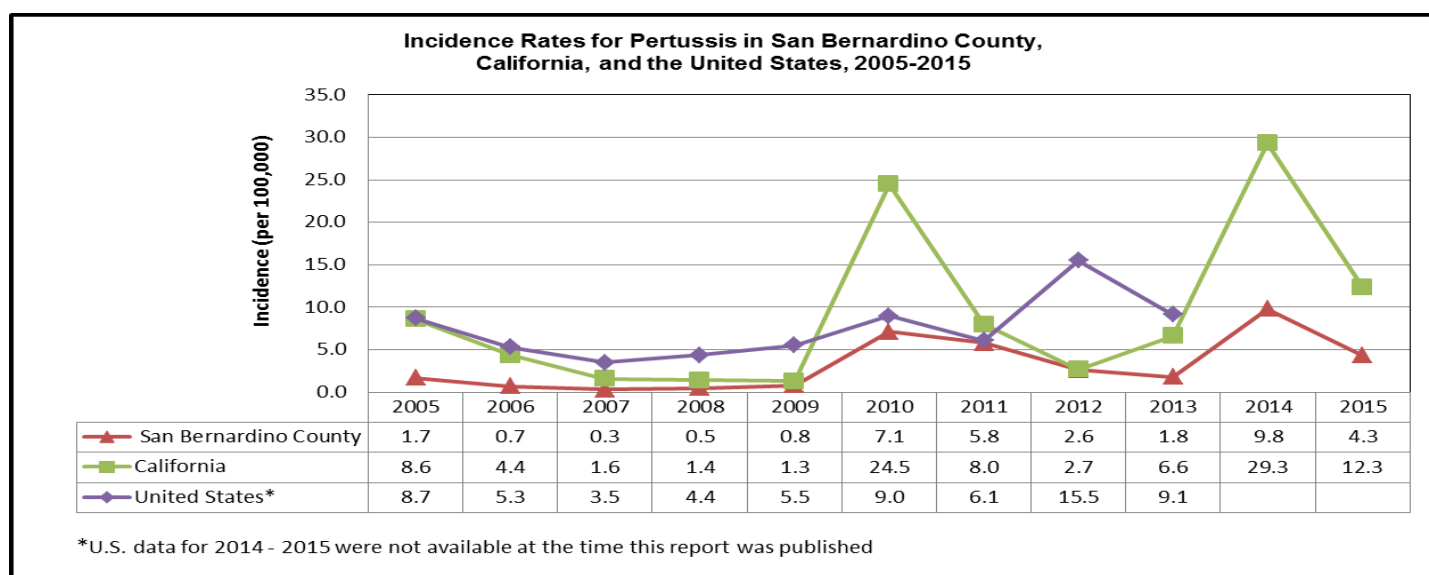
Seasonality: Pertussis Cases by Month of Onset, San Bernardino County, 2013-2015



PERTUSSIS (WHOOPING COUGH)

Pertussis Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	13	6	5	4	6	43	40	13	11	58	33
Black	7	0	0	0	0	6	4	4	0	5	0
Hispanic	12	6	1	4	4	80	69	30	20	108	37
Asian/PI	0	0	0	0	0	2	2	4	0	2	4
Native Am.	0	0	0	0	0	0	0	0	0	0	1
Other	0	0	0	0	0	1	0	0	0	6	5
Unknown	1	1	1	2	7	23	14	3	6	26	11
Total	33	13	7	10	17	155	129	54	37	205	91

Pertussis Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	21	4	6	6	12	51	34	20	10	41	16
1 - 4	0	1	0	1	2	23	23	13	4	37	12
5 - 9	2	2	0	1	1	14	16	9	2	18	11
10 - 14	6	2	1	2	1	32	27	4	9	50	27
15 - 19	2	1	0	0	1	10	8	1	7	33	14
20 - 24	1	0	0	0	0	5	2	0	0	1	3
25 - 29	0	0	0	0	0	1	4	2	0	3	0
30 - 34	1	3	0	0	0	2	4	1	0	3	1
35 - 39	0	0	0	0	0	2	2	2	1	3	0
40 - 44	0	0	0	0	0	7	3	0	1	2	1
45 - 54	0	0	0	0	0	4	1	1	2	7	4
55 - 64	0	0	0	0	0	0	3	0	1	3	1
>65	0	0	0	0	0	3	1	1	0	2	1
Unknown	0	0	0	0	0	1	1	0	0	2	0
Total	33	13	7	10	17	155	129	54	37	205	91



VACCINE SUCCESSES

Hepatitis A

	San Bernardino County		California		US	
	Cases	Rate	Cases	Rate	Cases	Rate
2013	10	0.5	255	0.7	1,781	0.6
2014	2	0.1	142	0.4	1,289	0.4
2015	4	0.2	179	0.5	--	--

The County reported a total of four cases of hepatitis A in 2015, a 99% decrease from the 563 cases reported in 1996. This significant decrease can be in part credited to the hepatitis A vaccine, which was licensed in 1995 and became routinely recommended for children age 12 months and older in 2005. At the same time, the Centers for Disease Control and Prevention (CDC) also recommended vaccine be used instead of immune globulin for post exposure prophylaxis for certain populations following exposure to hepatitis A. In 2003 the largest hepatitis A outbreak in US history, associated with green onions, sickened more than 600 individuals and killed 4. The Advisory Committee on Immunization Practices (ACIP) recommends a two dose series separated by 6 months to protect against this serious viral infection. Hepatitis A virus is primarily acquired by the fecal-oral route, either through person-to-person contact or consumption of contaminated food or water. Three of the four 2015 County cases were associated with travel, both domestic and international.

Meningococcal

	San Bernardino County		California		US	
	Cases	Rate	Cases	Rate	Cases	Rate
2013	9	0.4	111	0.3	556	0.2
2014	1	0.0	56	0.1	--	--
2015	2	0.1	49	0.1	--	--

The County reported two cases of invasive meningococcal disease (IMD) in 2015, both in males. One case was an adult and the other was a younger child. IMD is caused by contact with respiratory droplets of an individual infected with *Neisseria meningitidis*. The case fatality rate is 9-12%. To best protect against the A, C, W, and Y strains of this severe bacterial infection, ACIP recommends vaccination with a two dose series of either Menactra[®] or Menveo[®] quadrivalent vaccine, starting at 11-12 years of age. The 2015 County rate of 0.1 is well below the Healthy People 2020 goal of 0.3 cases per 100,000. Since 2015 there have been two major serogroup B meningococcal disease outbreaks on US college campuses and a cluster of serogroup C cases associated with gay and bisexual men in Southern California. In June 2015, ACIP recommended that adolescents 16–23 years old may be vaccinated with a serogroup B meningococcal (MenB) vaccine. Two vaccines, Bexsero[®] and Trumenba[®], have been licensed by the Food and Drug Administration to provide short-term protection against most strains of serogroup B meningococcal disease.

Mumps

	San Bernardino County		California		US	
	Cases	Rate	Cases	Rate	Cases	Rate
2013	1	0.0	30	0.1	584	0.2
2014	6	0.3	37	0.1	1,223	0.4
2015	7	0.3	31	0.1	--	--

San Bernardino County reported seven cases of mumps in 2015, a high since 2000. The Healthy People 2020 goal is to reduce the numbers of cases of mumps to a total of 500 cases annually. Mumps became a nationally reportable disease in the United States in 1968, and a two dose series of MMR vaccine has been routinely recommended for school-aged children since 1989. As a result of this recommendation, the numbers of reported cases mumps has decreased 99% since a high of 186,000 cases per year. Nationally, mumps outbreaks have been reported on college campuses and in a hockey team in 2014-2015.

VACCINE SUCCESSES (CONTINUED)

Varicella (Chickenpox) Hospitalizations and Deaths

	San Bernardino County		California		US	
	Cases	Rate	Cases	Rate	Cases	Rate
2013	1	0.0	32	0.1	*	--
2014	3	0.1	41	0.1	--	--
2015	3	0.1	61	0.2	--	--

*Varicella data is not collected using comparable parameters at the national level.

The County reported a total of three cases of varicella (VZV) hospitalization in 2015. Two cases were females and one case was a male under one year of age. ACIP recommends routine vaccination with a two dose series starting at 12-15 months of age, to protect against VZV. Before the vaccine was introduced in 1995, 11,000 cases were hospitalized each year and 103 died. The hospitalization and death rate has dropped more than 90% since vaccination began. The vaccine is 70-90% effective against any varicella disease, preventing complications such as pneumonia, bacterial infection of skin lesions, hospitalization and death. The County did not report any deaths due to VZV in 2015.

Haemophilus influenzae, in persons < 15 years of age

	San Bernardino County		California		US	
	Cases	Rate	Cases	Rate	Cases	Rate
2013	3	0.1	46	0.1	438*	0.1
2014	3	0.1	40	0.1	--	--
2015	2	0.1	65	0.2	--	--

*Cases reported in persons < 5 years of age.

In 2015, San Bernardino County reported a total of two cases of *Haemophilus influenzae* in persons younger than 15 years of age. Both cases occurred in males under 3 years of age, and in both cases the *H. influenzae* strain was not identified. Before the Hib vaccine was introduced in 1987, 1 in 200 children developed invasive Hib disease by age 5; 3-6% died. *H. influenzae* became nationally notifiable in 1991 and the numbers of cases have decreased by 99% since the vaccine became widely used. *Haemophilus influenzae* type b vaccine is recommended for all children younger than five years of age in the US, and is usually given to infants beginning at two months of age.

Up-to-Date Rates in San Bernardino County 2015-2016 Academic Year

	Kindergarten	Seventh grade	Child Care
Up-To-Date Rate	95.0 %	97.8 %	95.0 %
Personal Belief Exemptions, Any	2.6 %	2.2 %	1.7 %
4+ DTaP doses	95.6 %	--	97.0 %
3+ Polio doses	96.2 %	--	98.0 %
1+ MMR dose	96.1 %	--	98.0 %
3+ Hepatitis B doses	96.7 %	--	98.0 %
1+ Varicella dose	97.1 %	--	98.0 %

Note:

-- U.S. data for 2014-2015 were not available at the time this report was published.

CAMPYLOBACTERIOSIS

Infectious Agent: Commonly *Campylobacter jejuni*, a bacteria

Mode of Transmission: Fecal-oral route through ingestion of contaminated food, water, or milk; undercooked meat, especially poultry; contact with infected pets, farm animals, or infants

Incubation Period: 2-5 days average (range: 1-10 days)

Symptoms: Diarrhea (frequently with bloody stools), abdominal pain, fever, nausea and/or vomiting

Vaccine: None

For more information:

<http://www.cdc.gov/nczved/divisions/dfbmd/diseases/campylobacter/>

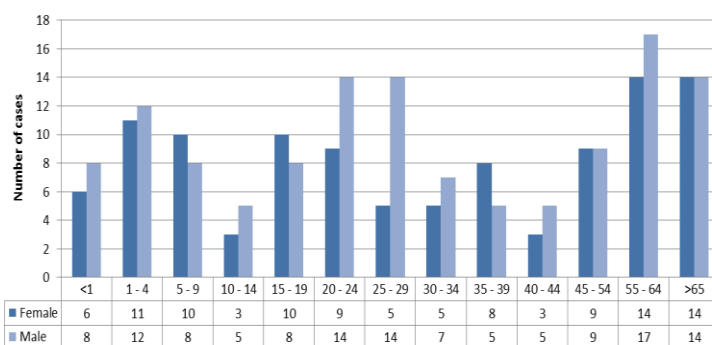
2015 REVIEW

- Numbers of reported County cases have increased 53% since 2010 with incidence rates among Whites (9.0) three times that of Blacks (2.8) and two times that of Hispanics (3.9).
- More males (54%) than females (46%) were reported in 2015.
- More infections are diagnosed among younger and older age groups with some differences seen by race/ethnicity.
- Numbers of cases increase between June and September, consistent with increased barbecues, increased consumption of chicken and pork, and warmer weather.
- As few as 500 bacteria can cause illness.
- Estimates are 2.4 million people are infected each year with *Campylobacter* with 200,000 of them in CA.
- California had two outbreaks of campylobacteriosis in 2015. One was associated with drinking raw (unpasteurized) goat's milk, while the other was associated with drinking raw cow's milk.
- In a 2011 study, 47% of raw chicken from local grocery stores tested positive for *Campylobacter*.

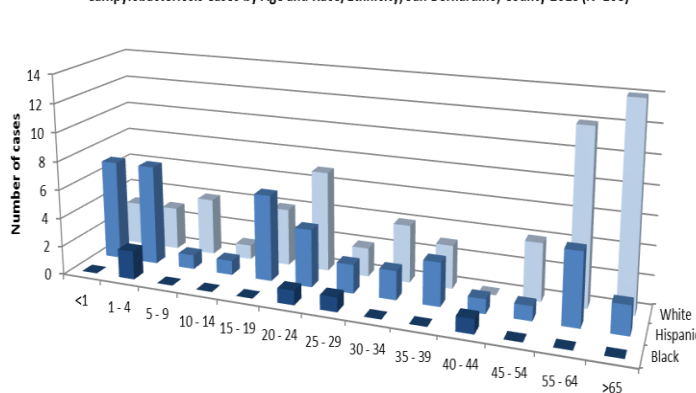
PREVENTION

- Cook all poultry products until it reaches a minimum internal temperature of 165°F.
- Always refrigerate meat products. Never leave raw meat at room temperature.
- Wash hands with soap and water before preparing food, after handling raw foods of animal origin (meat and poultry), after handling pet feces, and after changing diapers.
- Prevent cross-contamination in the kitchen by using separate cutting boards for foods of animal origin. Clean all cutting boards, countertops and utensils with soap and hot water after preparing raw food of animal origin before placing cooked or other food items on these surfaces.
- Avoid consuming unpasteurized milk and untreated surface water.
- Make sure that persons with diarrhea, especially children, wash their hands carefully and frequently with soap and water to reduce the risk of spreading the infection.

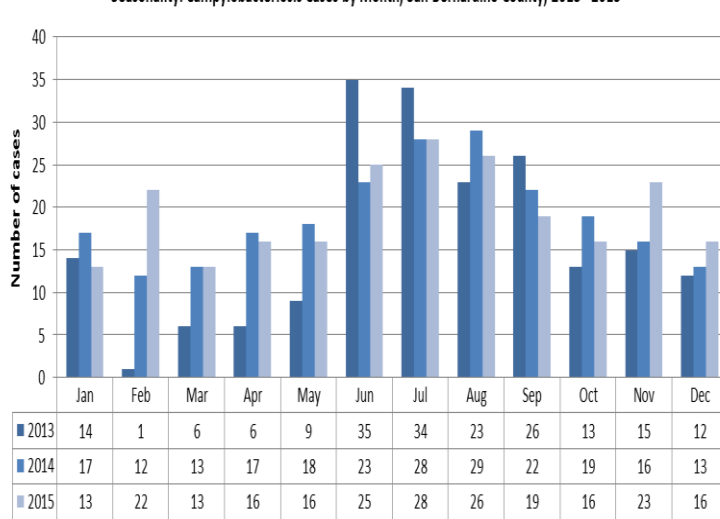
Campylobacteriosis Cases by Age and Gender, San Bernardino County, 2015 (N=233)



Campylobacteriosis Cases by Age and Race/Ethnicity, San Bernardino County 2015 (N=108)



Seasonality: Campylobacteriosis Cases by Month, San Bernardino County, 2013 - 2015

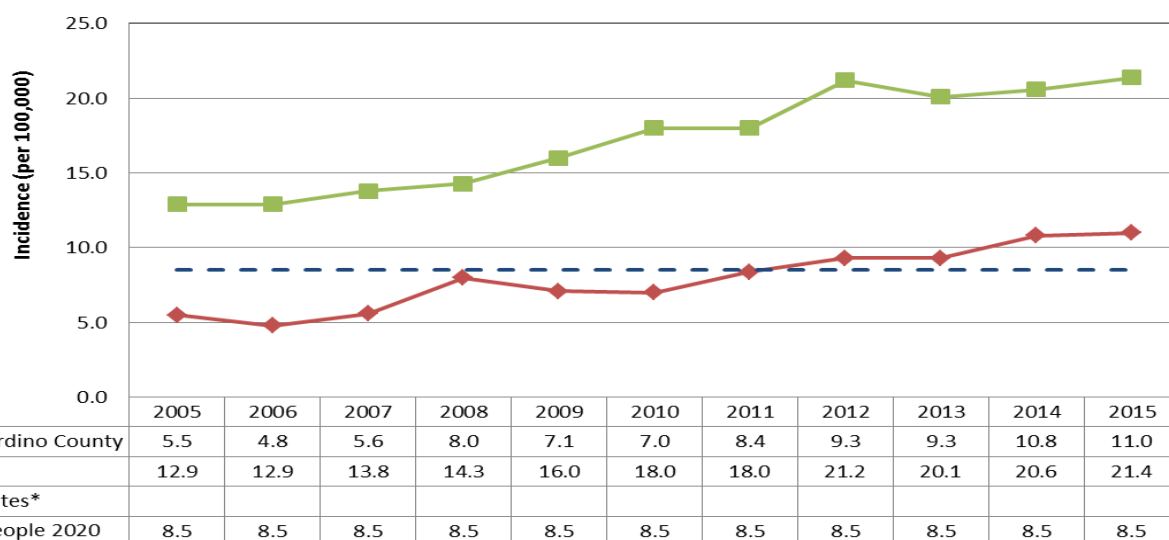


CAMPYLOBACTERIOSIS

Campylobacteriosis Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	38	33	43	58	44	43	58	60	20	28	61
Black	4	2	4	13	8	3	2	4	3	6	5
Hispanic	44	44	52	75	60	70	95	71	24	36	42
Asian/PI	2	8	5	8	5	5	1	2	1	3	9
Native Am.	0	0	1	0	0	0	1	0	0	0	1
Other	1	0	0	0	1	0	3	5	5	10	49
Unknown	17	8	8	11	31	31	27	50	141	144	66
Total	106	95	113	165	149	152	187	192	194	227	233

Campylobacteriosis Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	2	3	4	5	2	2	6	5	8	10	14
1 - 4	17	17	26	25	32	23	31	25	36	36	23
5 - 9	12	11	13	22	17	22	12	26	15	19	18
10 - 14	8	8	2	9	12	8	10	17	11	15	8
15 - 19	6	5	8	11	7	14	16	6	16	15	18
20 - 24	3	4	4	10	9	5	14	11	11	11	23
25 - 29	6	3	6	11	9	5	12	8	12	15	19
30 - 34	6	5	4	7	3	4	8	9	9	12	12
35 - 39	5	5	5	7	5	8	13	11	7	14	13
40 - 44	6	5	7	7	9	9	12	14	13	9	8
45 - 54	13	14	14	22	12	19	21	18	19	22	18
55 - 64	12	5	10	18	19	16	18	17	21	28	31
>65	10	10	10	11	13	17	14	25	14	21	28
Unknown	0	0	0	0	0	0	0	0	2	0	0
Total	106	95	113	165	149	152	187	192	194	227	233

Incidence Rates for Campylobacteriosis in San Bernardino County, California, and the United States, 2005-2015



*Campylobacteriosis is not a nationally-notifiable disease, therefore, U.S. data is not available.

GIARDIASIS

Infectious Agent: *Giardia lamblia*, a parasite

Mode of Transmission: Fecal-oral route through ingestion of cysts from the feces of an infected person or animal, usually via contaminated food or water; anal sex also contributes to transmission

Incubation Period: 7-10 days average (range: 3-25 days or longer)

Symptoms: Frequent diarrhea, with loose pale, greasy stools; abdominal cramps; bloating; fatigue; malabsorption of fats & fat-soluble vitamins

Vaccine: None

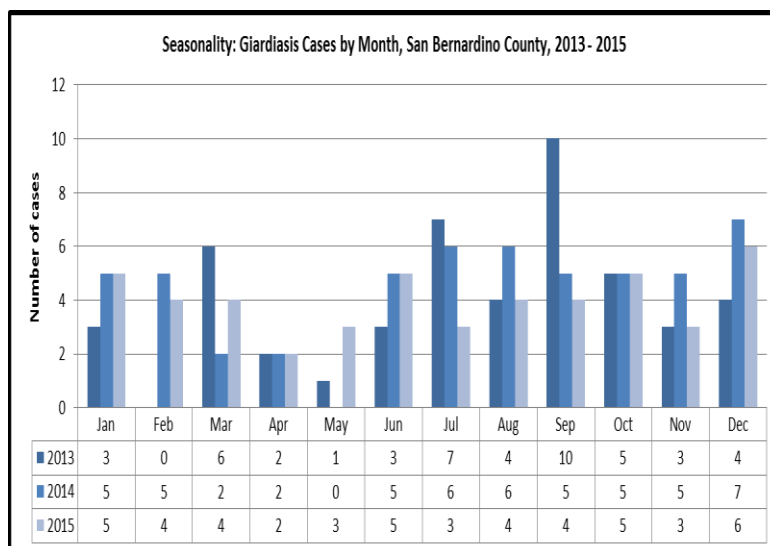
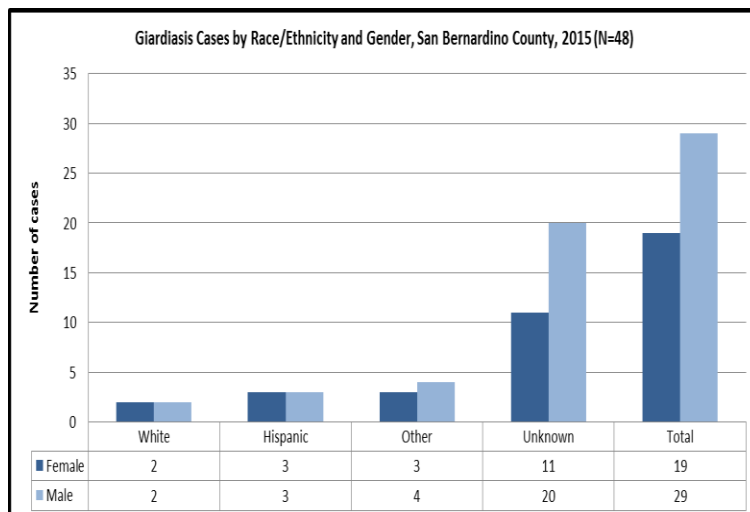
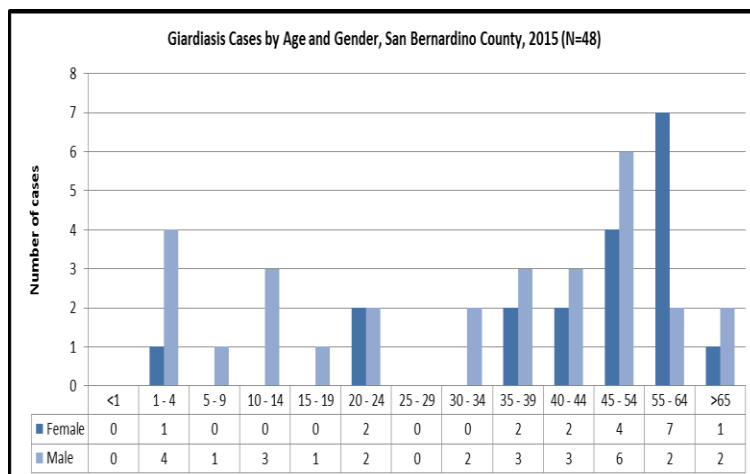
For more information: <http://www.cdc.gov/parasites/giardia/>

2015 REVIEW

- Incidence in the County decreased slightly in 2015 with County incidence being consistently lower than that of California or the US.
- Sixty-five percent (65%) of cases had incomplete race/ethnicity data reported in 2015.
- The highest numbers of cases are reported in young children aged 1-4 years and those aged 45-64 years.
- More males (60.4%) than females (39.6%) were reported.
- Giardia* is the most common intestinal parasite in the US that affects humans.
- Estimates are that 33% of individuals in developing countries have had giardiasis.
- An infected individual might shed 1-10 billion cysts daily in their feces for several months.
- Giardia* cysts can survive outside of the body for a long time.
- Nationally, there is some seasonality to *Giardia* infections, with reported numbers of cases in June-October as much as double that in January-March.
- Outbreaks have been reported associated with contaminated municipal and recreational waters and daycare centers.
- Chlorine in pools may not kill *Giardia* cysts.

PREVENTION

- Use a water purification method such as boiling, filtration or iodine treatment before drinking surface water (e.g. water from lakes, rivers, and ponds). Hikers or others who use surface water should consider all water sources as potentially contaminated.
- Workers in higher risk settings, such as day care centers or institutions, should use good hand washing techniques when diapering multiple children or caring for multiple patients.
- Avoid food such as raw vegetables and fruits, that may have been washed in contaminated water and or handled by vendors without adequate hand washing facilities.
- Use a barrier for oral-anal sex and a condom during anal sex.
- Individuals with diarrhea, especially diapered children, should not swim or participate in recreational water activities.

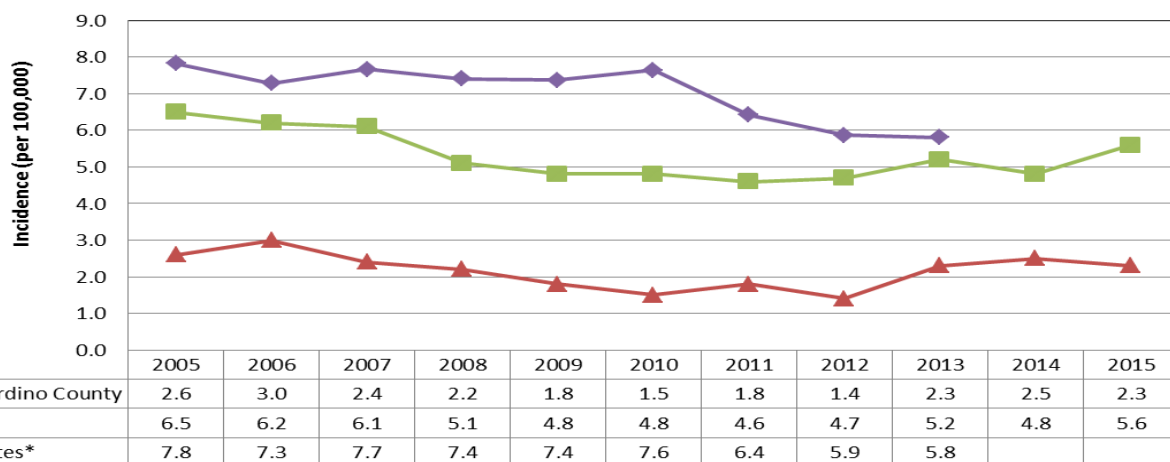


GIARDIASIS

Giardiasis Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	20	27	17	21	13	15	17	10	1	8	4
Black	6	1	1	2	0	1	3	0	0	1	0
Hispanic	14	26	26	16	16	10	14	10	3	4	6
Asian/PI	3	1	2	2	2	1	1	1	0	0	0
Native Am.	0	0	0	0	0	0	0	0	0	0	0
Other	0	1	0	0	0	1	0	0	1	0	7
Unknown	7	4	3	5	7	5	5	7	43	40	31
Total	50	60	49	46	38	33	40	28	48	53	48

Giardiasis Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	0	1	0	2	1	0	0	0	0	1	0
1 - 4	13	9	15	7	6	7	11	1	2	6	5
5 - 9	4	10	7	6	7	2	4	3	3	3	1
10 - 14	3	5	2	2	0	1	1	1	3	1	3
15 - 19	1	0	1	1	0	2	1	1	3	2	1
20 - 24	2	1	1	1	4	2	2	3	7	4	4
25 - 29	3	1	0	3	4	3	2	2	5	6	0
30 - 34	1	4	4	4	1	1	2	4	1	1	2
35 - 39	5	2	5	1	1	4	2	1	4	3	5
40 - 44	4	6	4	6	4	1	3	3	2	3	5
45 - 54	6	9	6	8	4	5	4	3	8	7	10
55 - 64	7	9	4	1	4	2	4	3	4	6	9
>65	1	3	0	4	2	3	4	3	3	10	3
Unknown	0	0	0	0	0	0	0	0	3	0	0
Total	50	60	49	46	38	33	40	28	48	53	48

Incidence Rates for Giardiasis in San Bernardino County, California, and the United States, 2005-2015



*U.S. data for 2014 - 2015 were not available at the time this report was published.

SALMONELLOSIS

Infectious Agent: *Salmonella* sp., a bacteria

Mode of Transmission: Fecal-oral route, usually via contaminated food or water

Incubation Period: 12-36 hours average (range: 6-72 hours)

Symptoms: Diarrhea, fever, headache, abdominal pain, nausea and/or vomiting

Vaccine: none

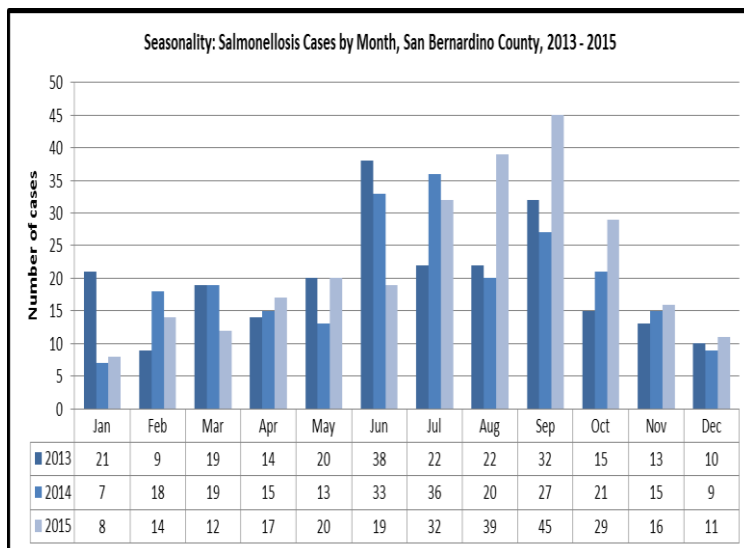
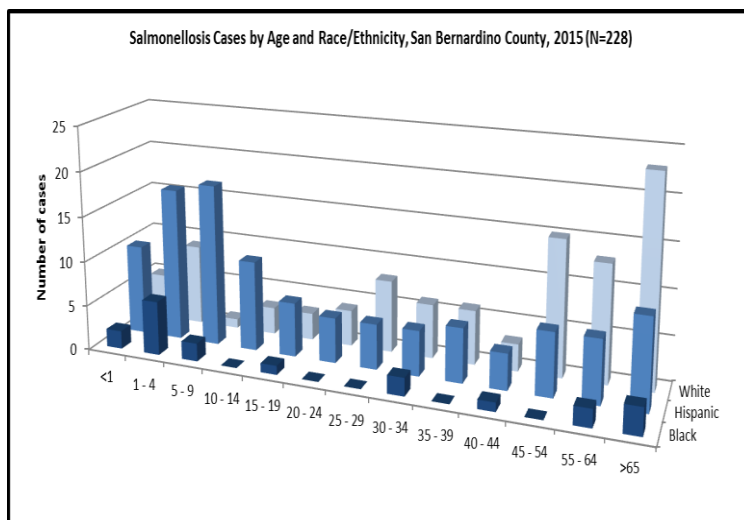
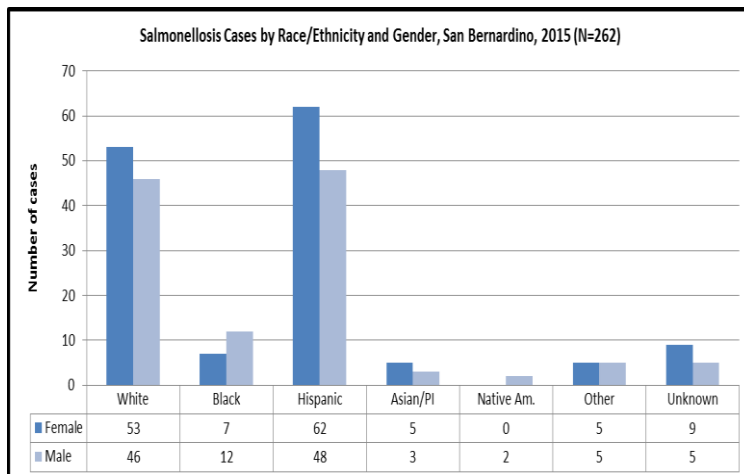
For more information: <http://www.cdc.gov/salmonella/>

2015 REVIEW

- The numbers of reported cases increased 12% from 2014 to 2015 causing the incidence rate to increase to 12.4 cases per 100,000. Incidence in the county is consistently lower than in California and the United States.
- Incidence rates was highest among Whites (14.6), followed by Hispanics (10.2), Asians (6.0), and Blacks (1.8). The number of cases among Native Americans was too small to calculate a rate.
- The most commonly reported symptoms were diarrhea (94%), abdominal cramps (72.4%), and fever (62.9%, avg 102.3 degrees).
- Illness resulted in a visit to the emergency room for 44% of cases, and 27% of cases were hospitalized an average of 4.4 days. One County case died in 2015.
- Numbers of cases increased from June to October reflecting increased numbers of barbecues, increased consumption of chicken and meat, and warmer temperatures.
- The *Salmonella* bacteria has over 2500 serotypes of which County cases included 32. Of the 180 County cases with identified serotypes, the most commonly reported serotypes in 2015 were *S. Enteritidis* (41), *S. Muenchen* (24), *S. Newport* (24), *S. Poona* (15) and *S. Typhimurium* (13). *S. Enteritidis* has been one of the highest serotypes for many years.
- California was part of 4 national *Salmonella* outbreaks in 2015 including *S. Paratyphi* B (raw tuna in sushi and sprouted nut butter spreads), *S. Poona* (imported cucumbers), and one involving multiple serotypes (live poultry kept as pets or in backyard flocks).

PREVENTION

- Ill workers in higher risk settings such as day care centers or restaurants should use good hand washing techniques with soap and water and should not work until tested and cleared by the health department.
- Wash hands with soap after handling reptiles, birds, or baby chicks, and after contact with pet feces.
- Wash kitchen work surfaces, cutting boards, and utensils with soap and water immediately after they have been in contact with raw meat or poultry.
- Thoroughly cook all poultry, ground beef, and eggs. Avoid food and drinks containing raw eggs or unpasteurized milk.
- Avoid direct and indirect contact between reptiles (turtles, iguanas, other lizards, snakes) and children under 5 years or immunocompromised persons.

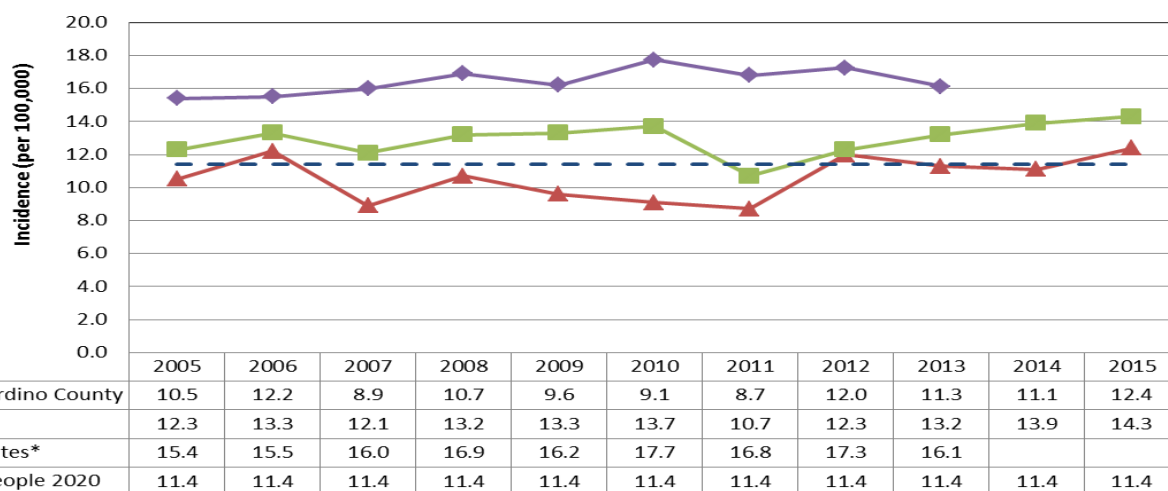


SALMONELLOSIS

Salmonellosis Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	63	108	66	86	49	63	72	102	82	76	99
Black	11	11	12	19	9	14	1	9	11	12	19
Hispanic	69	86	77	75	71	67	82	86	81	89	110
Asian/PI	14	7	8	5	2	10	4	10	11	14	8
Native Am.	0	2	0	0	0	2	1	0	0	1	2
Other	2	0	0	0	1	0	5	4	7	3	10
Unknown	44	27	16	34	69	42	27	37	43	38	14
Total	203	241	179	219	201	198	192	248	235	233	262

Salmonellosis Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	31	25	26	24	20	11	12	26	16	19	19
1 - 4	34	40	30	34	45	34	34	34	37	34	35
5 - 9	24	31	13	24	23	19	23	21	24	28	22
10 - 14	13	12	13	25	14	9	11	8	10	10	14
15 - 19	9	18	10	7	8	10	5	13	11	6	13
20 - 24	11	15	3	4	7	8	9	11	11	12	13
25 - 29	7	10	6	16	7	10	10	16	13	12	15
30 - 34	8	9	4	20	5	5	9	8	11	7	13
35 - 39	6	9	11	12	11	9	10	12	12	8	18
40 - 44	11	10	7	14	9	11	9	9	5	11	9
45 - 54	20	23	20	10	16	27	15	28	19	13	23
55 - 64	10	18	17	11	13	24	17	29	35	24	28
>65	19	21	19	18	23	21	28	30	31	47	40
Unknown	0	0	0	0	0	0	0	3	0	2	0
Total	203	241	179	219	201	198	192	248	235	233	262

Incidence Rates for Salmonellosis in the San Bernardino County, California, and the United States, 2005-2015



*U.S. data for 2014 - 2015 were not available at the time this report was published.

SHIGA TOXIN-PRODUCING *E. COLI* (STEC), INCLUDING *E. COLI* O157:H7

Infectious Agent: A group of shiga toxin-producing *E. coli* bacteria; mainly *E. coli* O157:H7

Mode of Transmission: Fecal-oral route, usually via food or water contaminated with ruminant feces (e.g. cow feces), or direct contact with animals or their environment

Incubation Period: 3-4 days (range: 2-10 days)

Symptoms: Diarrhea (sometimes bloody), abdominal cramps; children under 5 years and elderly people are at higher risk for hemolytic uremic syndrome (HUS), a type of kidney failure.

Vaccine: None

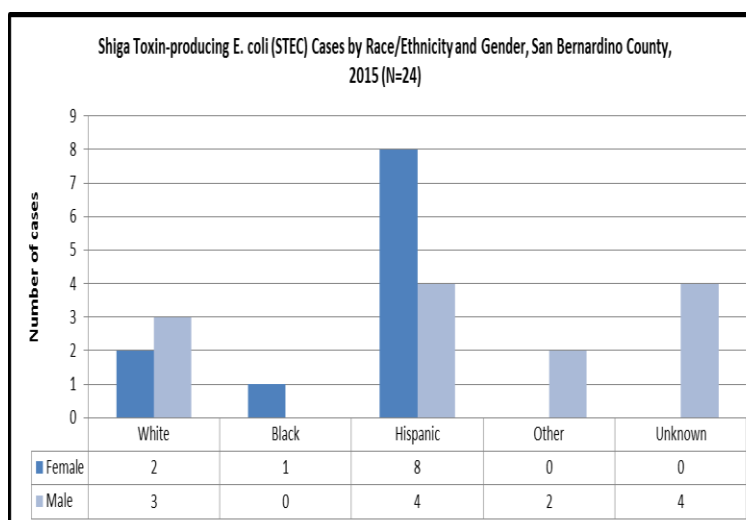
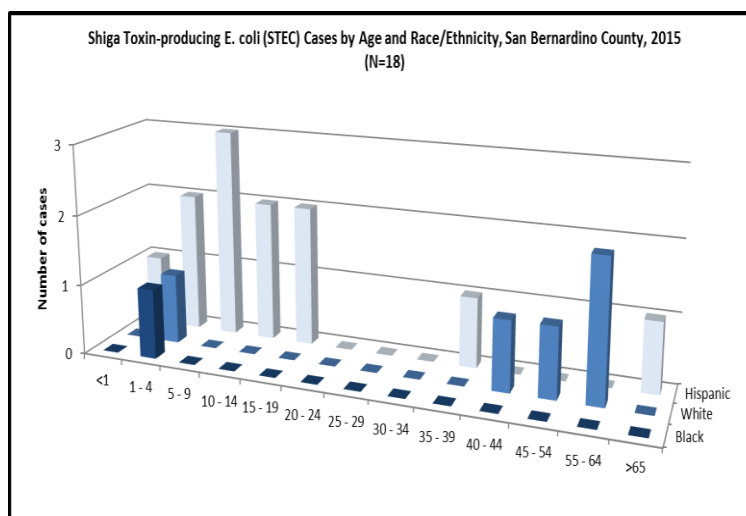
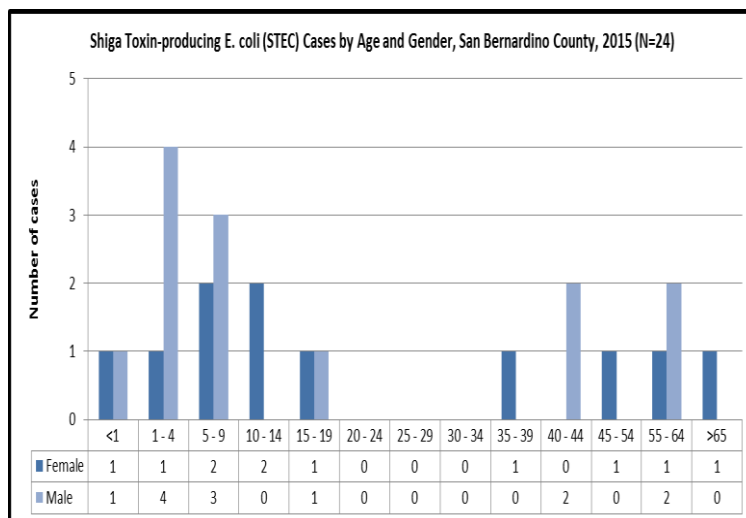
For more information: <http://www.cdc.gov/ecoli/>

2015 REVIEW

- The number of reported cases remained level from 2014 to 2015.
- Hispanics (50%) made up the largest proportion of cases and the highest incidence rate (1.1) followed by Whites (0.7) and Blacks (0.6).
- The largest proportion (50%) of cases occurred among children 9 years of age and under.
- Males comprised 54% of cases.
- Of 2015 County cases, 7 visited the ER and 4 were hospitalized.
- About 2-7% of infections lead to HUS where destruction of red blood cells leads to kidney failure. None of the County cases developed HUS and none died.
- California was part of 3 nationwide outbreaks in 2015 involving romaine lettuce, rotisserie chicken and one linked to a large fast food chain without a specific food item identified.
- Past infections and outbreaks have been associated with clover and alfalfa sprouts, ground beef, salads, spinach, bologna, hazelnuts, cheeses, apple cider, raw milk, prepackaged cookie dough, flour, and swimming in contaminated pools.

PREVENTION

- Thorough hand washing with soap and water after using the toilet, after changing diapers, and before handling food is important.
- Ground beef and meat should be thoroughly cooked to a temperature of at least 160°F/70°C. Use a thermometer to verify the temperature.
- Avoid consuming raw milk, unpasteurized dairy products, and unpasteurized juices (like fresh apple cider).
- Avoid swallowing water when swimming or playing in lakes, ponds, streams, swimming pools, and backyard "kiddie" pools.
- Prevent cross-contamination in food preparation areas by thoroughly washing hands, counters, cutting boards, and utensils after they touch raw meat.
- Wash your hands after contact with animals at farms, petting zoos, fairs, or home. Use an alcohol-based hand sanitizer if soap and water are not available.

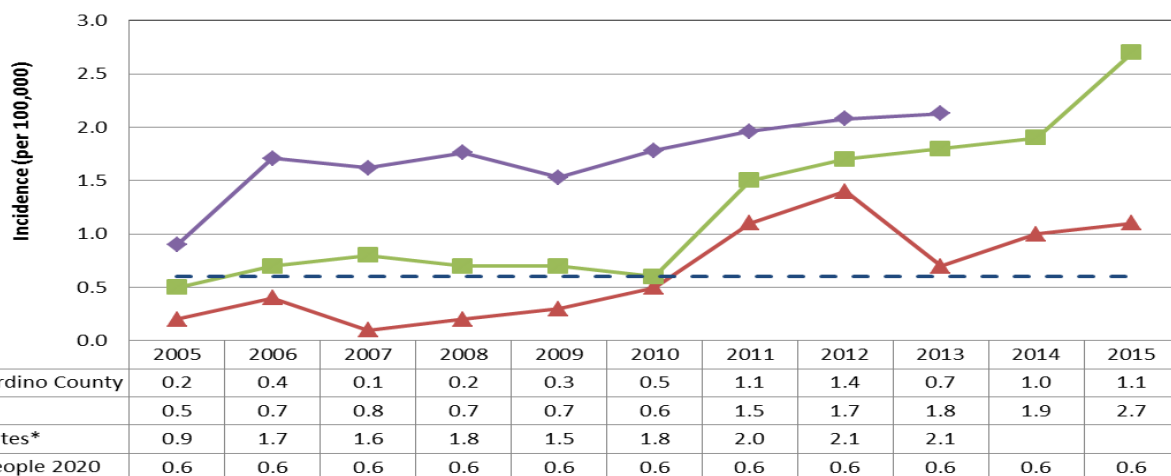


SHIGA TOXIN-PRODUCING *E. COLI* (STEC), INCLUDING *E. COLI* O157:H7

Shiga Toxin-producing <i>E. coli</i> (STEC) Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	1	2	0	1	2	3	10	12	5	8	5
Black	0	2	1	1	0	0	1	0	0	1	1
Hispanic	1	3	1	2	2	3	10	13	8	8	12
Asian/PI	0	0	0	0	0	0	1	0	0	1	0
Native Am.	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	1	0	2
Unknown	1	0	0	1	2	4	2	3	1	4	4
Total	3	7	2	5	6	10	24	28	15	22	24

Shiga Toxin-producing <i>E. coli</i> (STEC) Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	0	0	0	0	0	0	1	1	0	1	2
1 - 4	1	4	2	1	1	2	12	7	6	7	5
5 - 9	0	0	0	1	3	3	0	3	3	1	5
10 - 14	0	1	0	0	0	0	1	2	0	0	2
15 - 19	1	0	0	1	1	0	0	1	0	2	2
20 - 24	0	0	0	1	0	1	2	3	2	3	0
25 - 29	0	1	0	0	0	0	2	1	2	0	0
30 - 34	0	0	0	0	0	0	0	0	0	0	0
35 - 39	1	0	0	1	0	0	0	1	0	1	1
40 - 44	0	0	0	0	0	0	0	2	1	1	2
45 - 54	0	0	0	0	0	1	3	1	0	2	1
55 - 64	0	1	0	0	1	1	2	2	1	1	3
>65	0	0	0	0	0	2	1	4	0	3	1
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	3	7	2	5	6	10	24	28	15	22	24

Incidence Rates for Shiga Toxin-producing *E. coli* (STEC) in San Bernardino County, California, and the United States, 2005-2015



*U.S. data for 2014 - 2015 were not available at the time this report was published

SHIGELLOSIS

Infectious Agent: *Shigella* sp., a group of four species of bacteria: Group A (*Shigella dysenteriae*), Group B (*Shigella flexneri*), Group C (*Shigella boydii*), Group D (*Shigella sonnei*)

Mode of Transmission: Fecal-oral route, usually via contaminated food or water

Incubation Period: 1-3 days average (range: 12-96 hours, or up to one week for *S. dysenteriae*)

Symptoms: Diarrhea (sometimes bloody), fever, nausea and/or vomiting

Vaccine: none

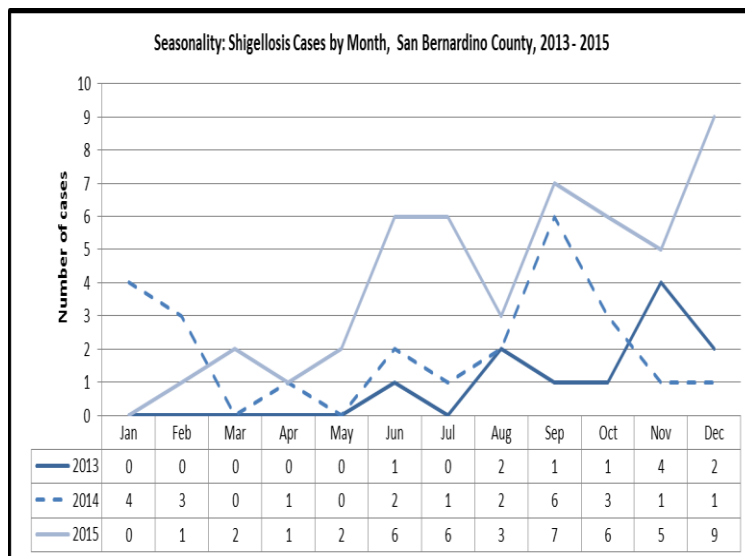
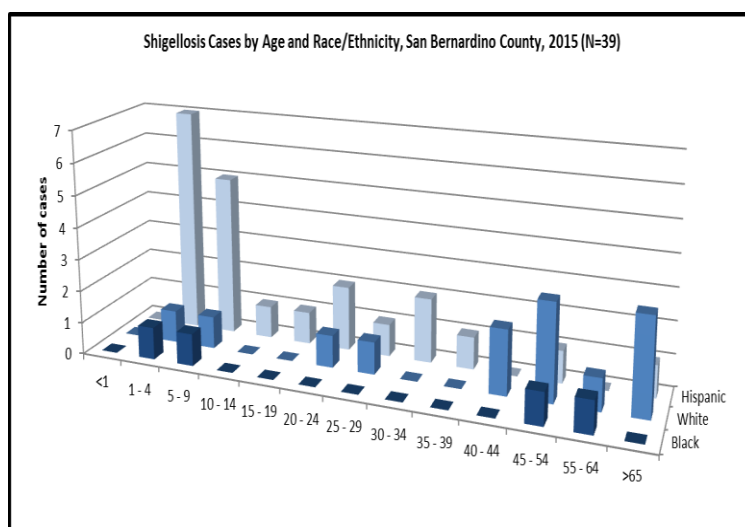
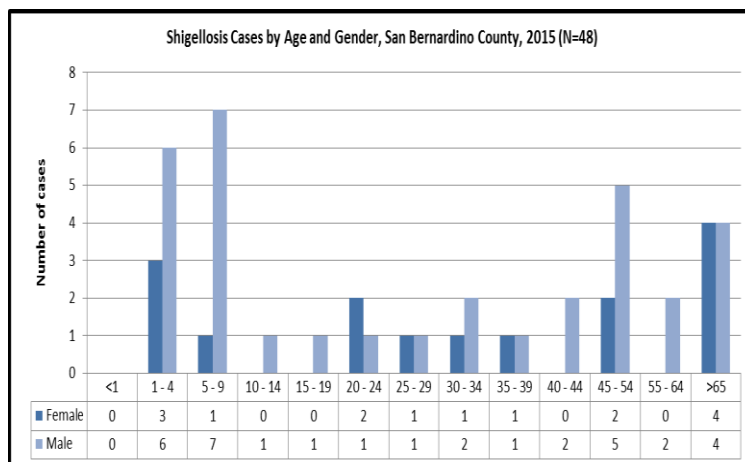
For more information: <http://www.cdc.gov/shigella/index.html>

2015 REVIEW

- The numbers of reported cases increased three fold from 2013 (11) to 2015 (48).
- The largest proportion of cases occurred among Hispanics (46%). However the highest incidence rates were among Blacks (2.3), followed by Hispanics (2.0) and Whites (1.9).
- Children 9 years and younger accounted for 35.4% of cases in 2015.
- Males comprised an increasing proportion (68.8%) of cases from previous years.
- Shigella* Group D accounted for 68.4% of County cases where the group was identified.
- Shigella* is very contagious, only 10-200 organisms are needed to cause infection.
- Globally, resistance in *Shigella* isolates to antibiotics such as ampicillin and TMP-SMZ is common.
- Outbreaks have been associated with cilantro, lettuce, raw oysters, commercially prepared bean dip, contact with contaminated water, and people living in crowded conditions such as jails and refugee camps.

PREVENTION

- Employees in higher risk settings such as day care centers or restaurants, should use good hand washing techniques with soap and water.
- Small children and toddlers should have supervised handwashing after they use the toilet. Soiled diapers should be disposed of properly and diaper changing areas disinfected after use. Children with diarrhea should not attend child care.
- Infected employees in sensitive occupations should not work until tested and cleared by the health department.
- Avoid food that may have been washed in contaminated water and or handled by vendors without adequate hand washing facilities.
- Avoid drinking pool or recreational water.
- When traveling to areas without adequate sewage treatment, drink only treated or boiled water and boiled, cooked or peel able food items.
- Shigella* can also be transmitted via oral-anal sex, so barrier protection should be used for a few weeks after a diarrheal illness.

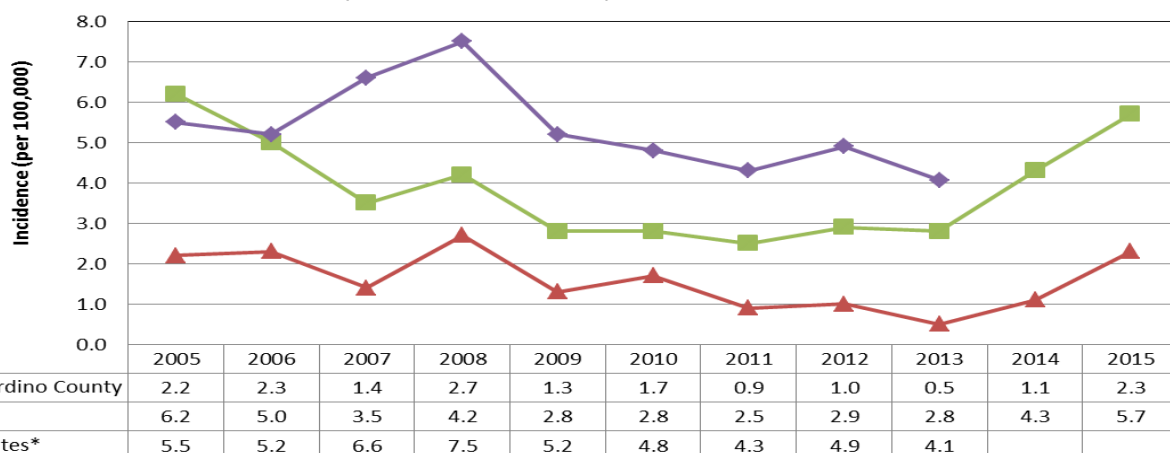


SHIGELLOSIS

Shigellosis Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	9	10	5	15	7	8	3	3	2	4	13
Black	1	2	0	2	0	2	2	1	1	1	4
Hispanic	26	29	21	32	7	20	11	13	5	15	22
Asian/PI	1	1	1	0	2	2	0	1	0	1	1
Native Am.	1	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	1	0	0	0	2
Unknown	5	4	2	6	12	4	3	2	3	3	6
Total	43	46	29	55	28	36	20	20	11	24	48

Shigellosis Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	1	0	0	2	0	2	0	0	0	0	0
1 - 4	10	14	10	17	9	14	7	6	3	0	9
5 - 9	8	10	3	6	3	9	1	3	1	7	8
10 - 14	4	3	5	4	3	0	0	2	1	0	1
15 - 19	5	2	0	0	1	0	0	1	1	1	1
20 - 24	3	3	0	2	3	0	1	0	1	4	3
25 - 29	4	1	2	6	1	3	1	1	2	2	2
30 - 34	2	4	1	2	1	3	3	1	0	1	3
35 - 39	0	1	2	3	0	1	0	0	0	4	2
40 - 44	1	1	0	3	0	1	3	2	0	0	2
45 - 54	1	3	2	5	4	1	2	1	0	3	7
55 - 64	2	3	3	2	2	0	1	2	2	0	2
>65	2	1	1	3	1	2	1	0	0	2	8
Unknown	0	0	0	0	0	0	0	1	0	0	0
Total	43	46	29	55	28	36	20	20	11	24	48

Incidence Rates for Shigellosis in San Bernardino County, California, and the United States, 2005-2015



*U.S. data for 2014 - 2015 were not available at the time this report was published

HIV/AIDS

Infectious Agent: Human Immunodeficiency Virus (HIV)
Mode of Transmission: Contact with infected body fluids containing blood, blood products; amniotic fluid; semen and vaginal secretions
Incubation Period: 2 weeks to 6 months for HIV infection; 1 to 15 years to develop AIDS
Symptoms: fever, chills, night sweats, rashes for HIV
Vaccine: none
For more information: <http://www.cdc.gov/hiv/>

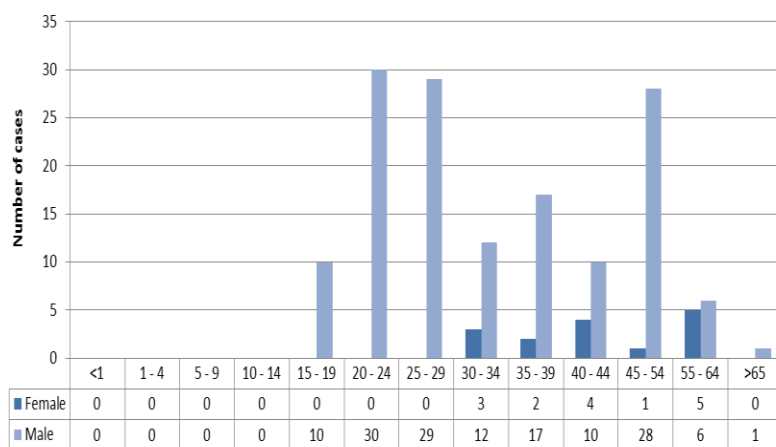
2015 REVIEW

- Reports of new diagnoses of HIV infections decreased from 2014-2015.
- Individuals ages 20-29 years accounted for 37.3% of all new HIV diagnoses in 2015.
- By race/ethnicity, Blacks make up 8% of the County population but account for 22% of HIV cases diagnosed in 2015 and 24% of people living with HIV
- The number of persons living with HIV/AIDS in this County increased 2.9% in 2015 to 3,863.
- As of 2013, 59% of individuals living with HIV in the County are in care and virally suppressed compared with 52% in California.
- By gender, the most common risk for males is males having sex with males (MSM), (68.9%) and for females, heterosexual transmission (54.9%).
- Of the new HIV diagnoses reported in 2015, 19% developed AIDS in the first 90 days after their diagnosis indicating their first HIV diagnosis came after years of being infected.

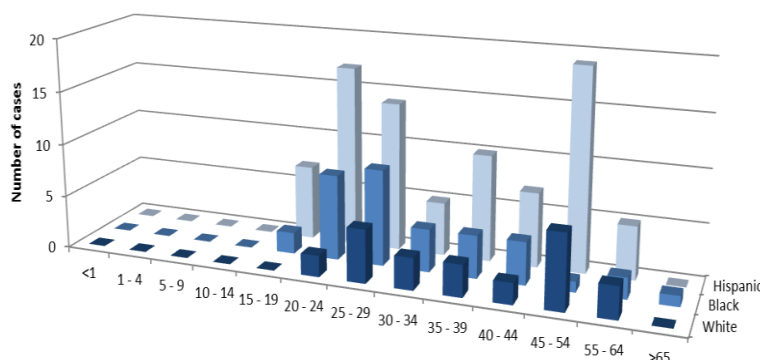
PREVENTION

- Condoms used consistently and correctly may prevent infection. Avoid sharing needles or razors.
- All individuals aged 13- 64 should be tested at least once, then annually if at high risk. Gay and bisexual males (MSM) should be screened every 3-6 months depending on risk. All pregnant women should be screened at their first prenatal visit.
- Linking HIV positive individuals with a medical provider and starting them on antiretroviral treatment has been shown to decrease their viral loads and increase their CD4 counts.
- All partners of HIV positive individuals within the last 12 months or more depending on the type of partner, should be notified of their exposure and tested. The public health department is available to assist with this confidential service.
- HIV negative individuals at ongoing risk of HIV infection, including those in discordant relationships or MSM with multiple partners, should consider HIV pre-exposure prophylaxis (PrEP), where they take HIV medication daily to avoid HIV infection.

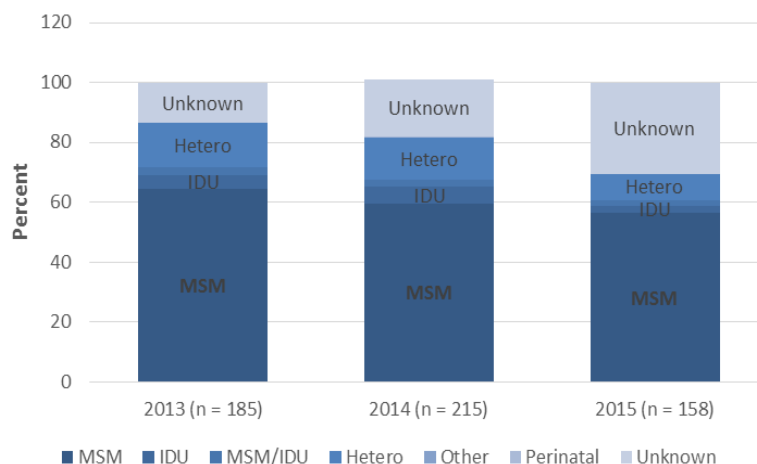
HIV Cases by Age and Gender, San Bernardino County, 2015 (N=158)



HIV Cases by Age and Race/Ethnicity, San Bernardino County, 2015 (N=144)



HIV Percentages by Risk, County of San Bernardino, 2013-2015

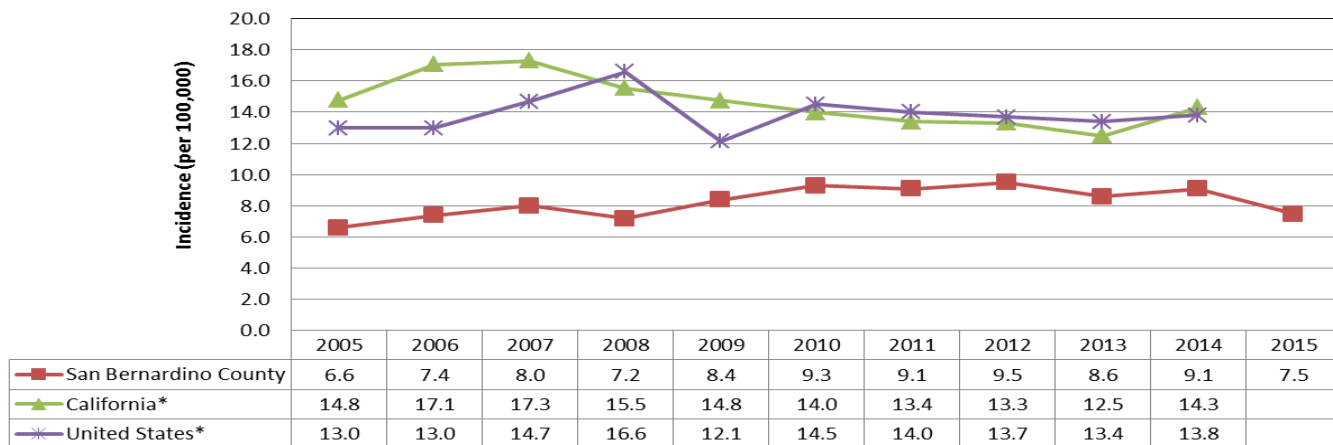


HIV/AIDS

HIV Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	64	79	63	49	41	49	51	38	44	44	25
Black	59	63	60	53	44	50	45	43	37	40	35
Hispanic	86	95	99	101	97	95	84	106	94	110	84
Asian/PI	1	6	6	9	5	3	4	5	9	9	8
Native Am.	2	0	0	1	0	0	0	1	0	4	4
Other	4	1	7	3	8	1	6	4	1	8	2
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	216	244	235	216	195	198	190	197	185	215	158

HIV Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	1	0	0	1	0	0	0	0	0	1	0
1 - 4	1	1	0	0	0	0	0	1	0	0	0
5 - 9	0	0	0	1	0	0	0	0	0	0	0
10 - 14	2	0	1	0	0	0	0	0	0	0	0
15 - 19	2	12	7	8	4	7	9	6	6	10	10
20 - 24	22	21	36	34	33	37	42	40	38	40	30
25 - 29	30	35	30	34	32	47	23	38	39	44	29
30 - 34	37	31	42	22	32	15	30	27	23	36	15
35 - 39	41	37	33	21	23	16	14	18	21	21	19
40 - 44	25	37	30	34	27	22	21	15	16	20	14
45 - 54	39	55	38	38	32	33	38	35	32	28	29
55 - 64	11	9	13	20	10	16	9	10	8	13	11
>65	5	6	5	3	2	5	4	7	2	2	1
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	216	244	235	216	195	198	190	197	185	215	158

Incidence Rates for HIV in San Bernardino County, California, and the United States, 2005-2015



*California and U.S. data for 2015 were not available at the time this report was published.

CHLAMYDIA

Infectious Agent: *Chlamydia trachomatis* (CT)

Mode of Transmission: Sexual activity or from mother to infant during birth

Incubation Period: 7-14 days or longer

Symptoms: if present, vaginal, penile or rectal discharge, itching, or burning on urination

Vaccine: none

Complications: untreated CT can cause pelvic inflammatory disease (PID), ectopic pregnancy, and infertility in women and preterm delivery and pneumonia in infants born to infected women

For more information:

<http://www.cdc.gov/std/chlamydia/default.htm>

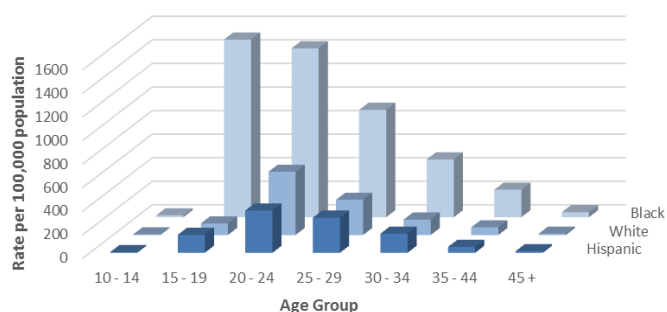
2015 REVIEW

- The numbers of reported CT cases has remained level in this County since 2011 at about 11,000 cases per year.
- In 2014 San Bernardino County ranked 13th among all counties in the U.S. for number of CT cases.
- Females account for 71% of County CT cases with females 15-29 years of age accounting for 60% of all County cases in 2015.
- Among 2015 County cases, Black females have rates of infection three times that of Hispanic females and four times that of White females.
- Nationally, men who have sex with men (MSM) have CT positive screening rates of 3.0-10.5% rectally and 0.5-2.3% pharyngeally.
- YRBS, a large national Centers for Disease Control and Prevention (CDC) survey, estimates 45.8% of all 11th graders interviewed in 2013 had had sex at least once with 13.3% reporting four or more lifetime partners.
- CDC studies estimate that only about 10% of men and 5-30% of women with CT have symptoms, reinforcing the need for regular screening.
- CDC estimates that 1 in 20 sexually active women aged 14-24 years has chlamydia.

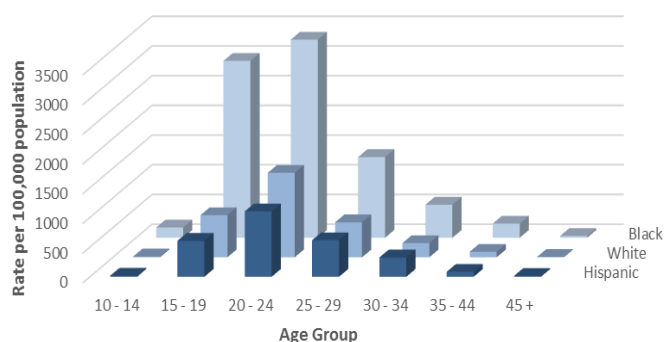
PREVENTION

- The best prevention is regular screening of women 25 years and younger, pregnant women, or any individual at increased risk; use of a barrier contraception method; or abstinence from sexual intercourse.
- Optimal specimens for CT testing are vaginal swabs (self collected is acceptable) for women and first catch urine specimens for men.
- Men and women who have tested positive for CT should be retested after 3 months due to high rates of reinfection.
- Individuals with CT should avoid having sex until 7 days after beginning their antibiotics. Any partners within the previous 60 days should also be tested and treated for CT.
- Patient delivered partner therapy, where the patient delivers antibiotics to their partner, has been shown to decrease the risk of reinfection.

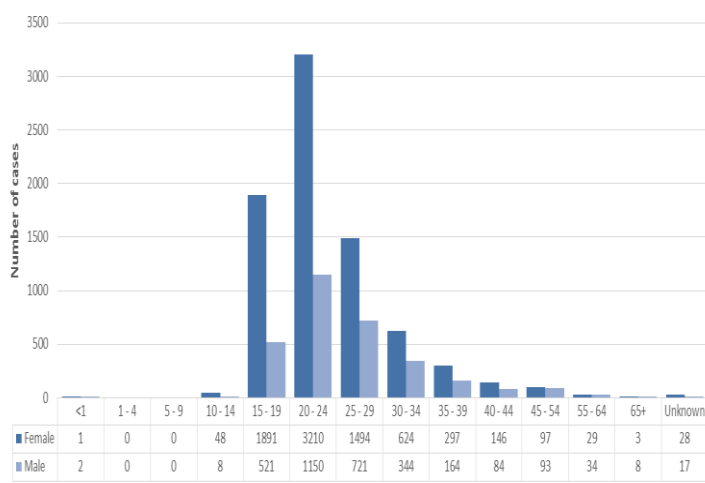
Chlamydia, Male Incidence Rates by Race/Ethnicity and Age Group, San Bernardino County, 2015 (N=3127)



Chlamydia, Female Incidence Rates by Race/Ethnicity and Age Group, San Bernardino County, 2015 (N=7839)



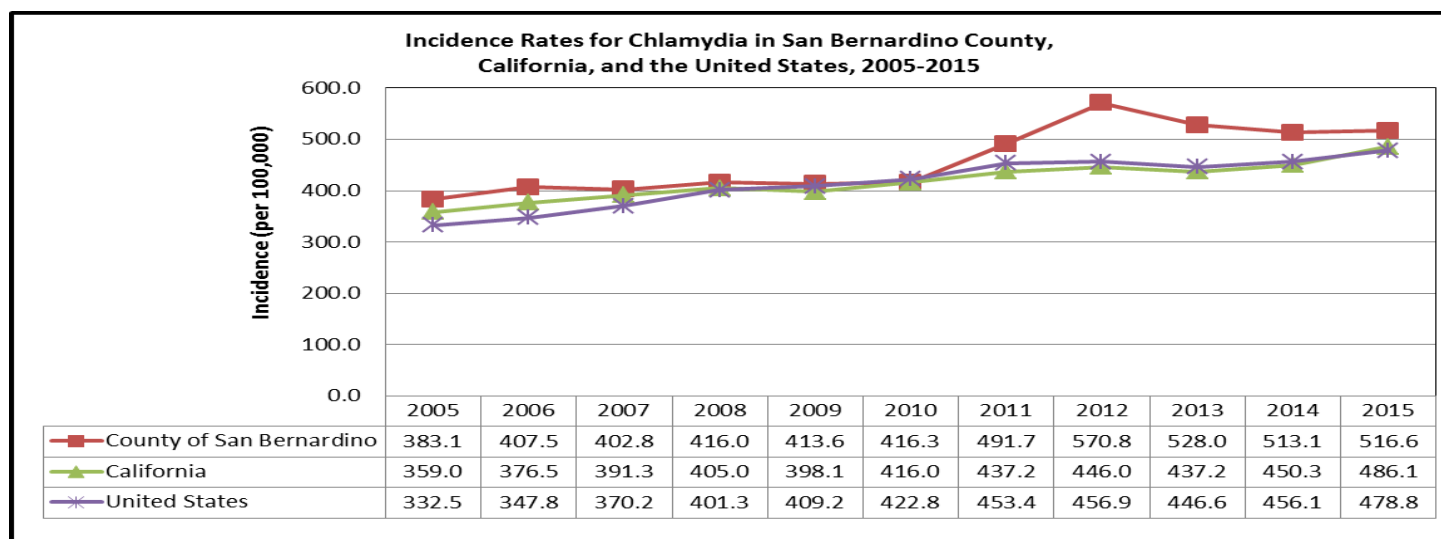
Chlamydia Cases by Age and Gender, San Bernardino County, 2015 (N=11,014)



CHLAMYDIA

Chlamydia Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	863	758	607	608	639	595	267	939	535	634	953
Black	1206	1041	736	1016	1087	749	391	1241	719	928	1046
Hispanic	1988	1842	1743	1640	1842	1326	1486	2978	1764	1981	1858
Asian/PI	119	95	90	92	116	74	25	122	75	86	103
Native Am.	14	15	9	8	15	15	6	32	33	32	37
Other	3	4	0	0	0	1	34	134	178	259	907
Unknown	3248	4309	4937	5184	4955	5726	8693	6341	7718	6835	6113
Total	7441	8064	8122	8548	8654	8486	10902	11787	11022	10755	11017

Chlamydia Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	3	10	9	2	0	4	7	4	1	0	3
1 - 4	1	0	1	0	0	0	0	0	0	1	0
5 - 9	1	2	2	0	0	0	5	2	0	0	0
10 - 14	77	75	67	69	70	74	56	99	82	58	56
15 - 19	2505	2668	2698	2809	2763	2532	2773	3215	2858	2445	2412
20 - 24	2816	3059	3045	3197	3309	3400	4663	4834	4503	4336	4362
25 - 29	1097	1194	1341	1341	1370	1391	1865	1984	1927	2082	2216
30 - 34	467	522	501	572	583	547	746	828	801	883	968
35 - 39	244	281	234	303	282	287	375	398	414	403	461
40 - 44	118	118	110	140	146	135	197	199	203	222	230
45 - 54	93	97	85	98	99	93	173	171	177	231	190
55 - 64	15	24	23	14	22	18	30	40	42	51	63
>65	4	14	6	3	10	5	9	12	10	15	11
Unknown	0	0	0	0	0	0	3	1	4	28	45
Total	7441	8064	8122	8548	8654	8486	10902	11787	11022	10755	11017



GONORRHEA

Infectious Agent: *Neisseria gonorrhoeae* (GC)

Mode of Transmission: Sexual activity or from mother to child at birth

Incubation Period: 1-14 days

Symptoms: Urethral discharge, itching, burning

Vaccine: None

Complications: Untreated GC can cause pelvic inflammatory disease (PID), ectopic pregnancy, and infertility in women and blindness, joint infection and disseminated blood infection in infants born to infected women

For more information: <http://www.cdc.gov/std/Gonorrhea/>

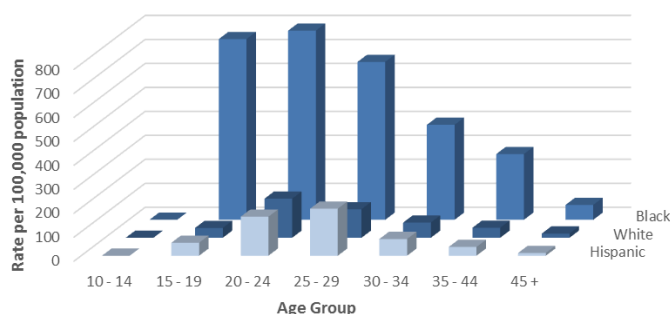
2015 REVIEW

- Gonorrhea cases increased 139% in the County from 2010 (1,148 cases) to 2015 (2,743 cases).
- In 2014 San Bernardino County ranked 19th among all counties in the U.S. for number of GC cases.
- In 2015 males comprised 50% of County cases with individuals aged 15-29 years of any gender accounting for 72% of cases.
- In 2015 Blacks had rates of infection (271.3) six times that of Hispanics (47.9) and Whites (44.2).
- Studies among males who have sex with males (MSM) have shown that urine testing alone missed 72% of rectal infections and 74% of pharyngeal infections, underscoring the need for providers to conduct a thorough sexual health history.
- Of 2014 CA cases, 9.4% of GC cases were also HIV positive, with males having a higher percent (14.4%) than females (0.6%).
- Of CA 2015 cases, 26% of heterosexual males and 24% of females had been incarcerated in the last year.
- CDC estimates that the actual number of gonococcal infections is more than double those detected and reported.
- Over 7% of the incarcerated women 35 years of age and younger tested in 2015 in a special County jail project were found to have GC.
- Of the 2015 County cases for which treatment information was available, 80% were treated correctly.
- CA data on antibiotic resistance shows 30% of isolates resistant to Ciprofloxacin at sentinel sites in 2014, which is why drugs from the fluoroquinolone group are no longer recommended for GC treatment.

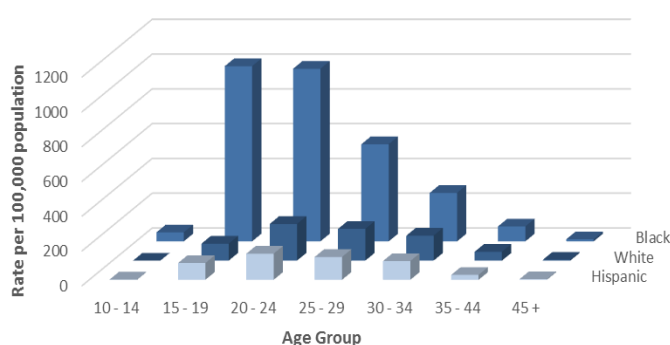
PREVENTION

- Use latex condoms consistently and correctly if not in a mutually monogamous relationship. Be aware that drugs and alcohol may increase risky behavior.
- Annual screening and prompt effective treatment is important among sexually active individuals.
- The most recent treatment guidelines issued in 2015 recommend dual therapy with two antibiotics for treatment, ceftriaxone and azithromycin, to limit resistance in oral cephalosporins.
- All partners of a GC-infected individual within the 60 days prior to diagnosis should be tested and treated.

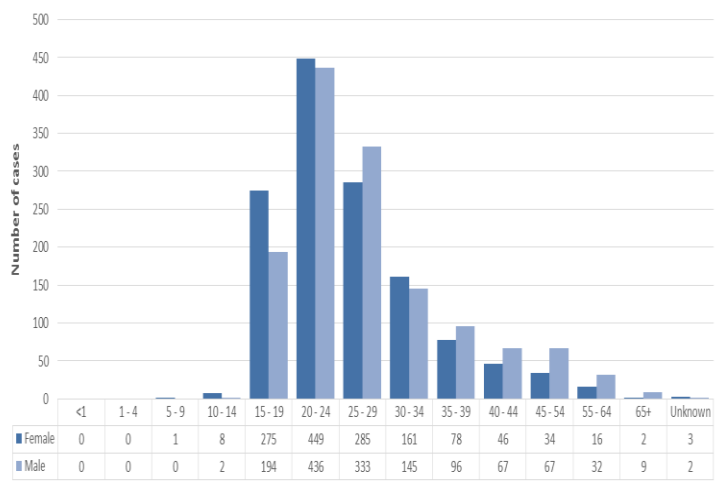
Gonorrhea, Male Incidence Rates by Race/Ethnicity and Age Group, San Bernardino County, 2015 (N=1381)



Gonorrhea, Female Incidence Rates by Race/Ethnicity and Age Group, San Bernardino County, 2015 (N=1354)



Gonorrhea Cases by Age and Gender, San Bernardino County, 2015 (N=2741)

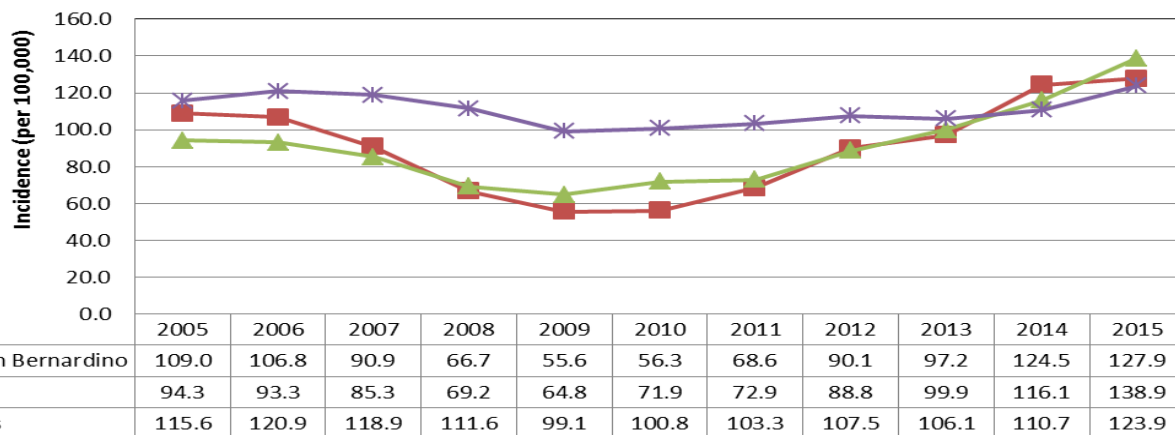


GONORRHEA

Gonorrhea Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	258	212	149	119	76	83	73	171	168	240	299
Black	574	435	287	299	273	231	190	387	342	456	476
Hispanic	391	360	276	198	152	150	149	368	381	479	516
Asian/PI	22	11	15	17	17	14	5	16	20	16	19
Native Am.	6	4	2	4	0	1	1	5	7	10	3
Other	1	1	0	0	0	0	11	29	40	71	163
Unknown	864	1091	1103	733	645	669	979	884	1071	1338	1267
Total	2116	2114	1832	1370	1163	1148	1408	1860	2029	2610	2743

Gonorrhea Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	2	1	2	0	0	3	2	0	0	0	0
1 - 4	0	2	0	0	0	0	0	0	0	1	0
5 - 9	0	4	0	0	0	0	0	0	0	0	1
10 - 14	30	17	15	10	9	8	8	13	8	17	10
15 - 19	530	563	499	459	349	267	310	396	398	499	469
20 - 24	681	692	613	429	387	429	505	666	677	871	885
25 - 29	384	361	319	215	204	195	268	334	385	585	618
30 - 34	212	195	161	118	86	102	146	198	226	273	307
35 - 39	120	140	102	61	47	55	66	114	130	140	175
40 - 44	83	66	51	41	32	44	58	58	93	80	113
45 - 54	54	58	57	33	40	41	37	59	91	108	101
55 - 64	13	13	11	3	9	2	6	14	18	26	48
>65	7	2	2	1	0	2	2	8	2	5	11
Unknown	0	0	0	0	0	0	0	0	1	5	5
Total	2116	2114	1832	1370	1163	1148	1408	1860	2029	2610	2743

Incidence Rates for Gonorrhea in San Bernardino County, California, and the United States, 2005-2015



SYPHILIS, ALL STAGES

Infectious Agent: *Treponema pallidum*

Mode of Transmission: Contact with syphilis chancre on the genitalia, anus, or mouth, or during pregnancy or birth

Incubation Period: 21 days (range:10-90 days)

Symptoms: Chancre, rash including palms and soles of feet, fever, swollen lymph glands, sore throat, hair loss, muscle aches and fatigue

Vaccine: none

For more information:

<http://www.cdc.gov/std/syphilis/default.htm>

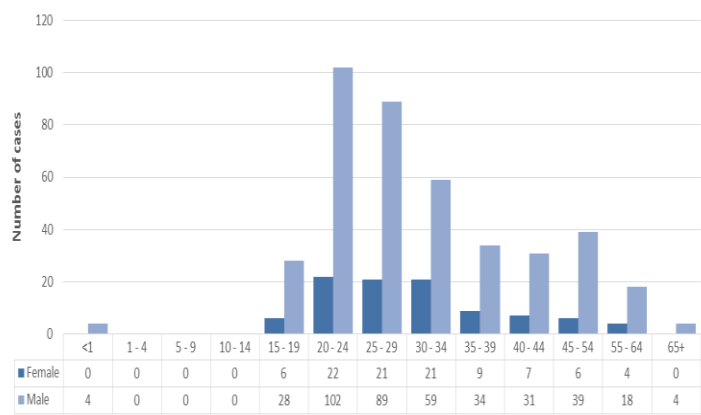
2015 REVIEW

- Of the 506 cases of any stage reported in 2015, 81% were in males and the most commonly reported age group of any gender is 20-29 years.
- Rates in Blacks are three times that of Whites and almost double that of Hispanics in the County.
- The numbers of cases among County females has trended up from 2009 (54), 2010 (45), 2011 (57), 2012 (62), 2013 (77), 2014 (80), and 2015 (96) reflecting increases seen in CA also.
- Four congenital syphilis cases were reported in the County in each of 2013, 2014 and 2015, underscoring the importance of screening and follow up in pregnant women.
- Cases of congenital syphilis increased in CA from 56 in 2013 to 100 in 2014 to 141 in 2015 and were associated with lack of prenatal care, inadequate syphilis treatment, poverty and substance abuse.
- The numbers of cases of all stages in the County increased by 218% from 2010 to 2015, with the largest proportional increases occurring among the infectious stages (primary, secondary, and early latent).
- In addition to the overall number of syphilis cases increasing in the County, the proportion of early infectious cases has increased from 40% in 2013 to 48% in 2015.
- Among CA MSM infectious cases in 2014, 57% were HIV positive.

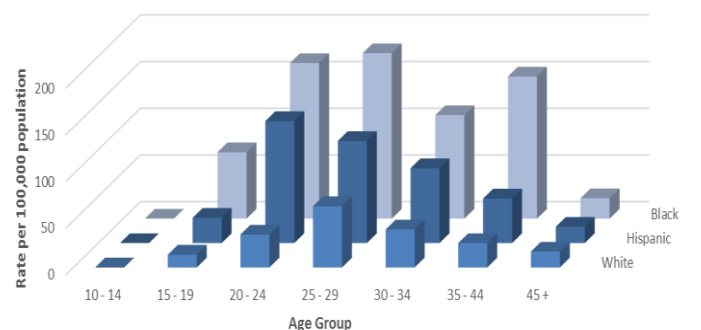
PREVENTION

- Condoms, if used correctly and consistently, may prevent infection. Alcohol and drugs may increase risk of infection with syphilis and other STIs.
- Pregnant women should be screened at their first prenatal visit. Congenital syphilis cases can be prevented if women are treated appropriately at least 30 days before the birth.
- High risk individuals (MSM, HIV-infected, those with multiple sex partners) should be screened annually or as often as every 3-6 months.
- Bicillin L-A is effective in the treatment of syphilis, one injection for the earliest stages and three injections for the untreated infections over one year of duration. Treatment will not undo any of the damage already done.
- HIV testing is recommended also, given a high number of co-infected cases especially among MSM.

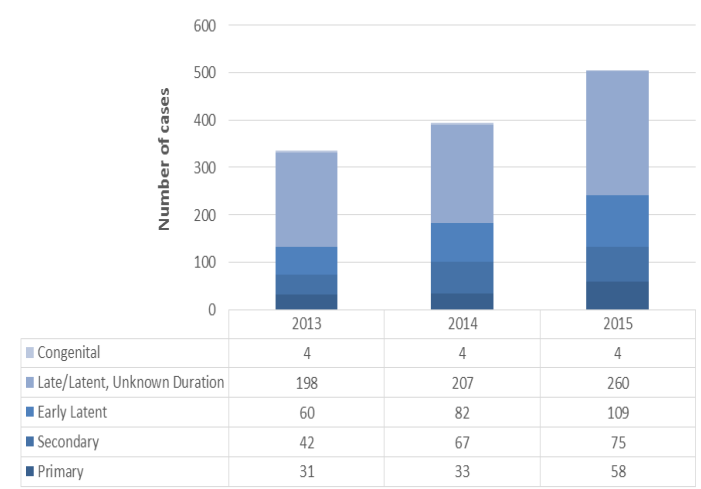
Syphilis (All Stages) Cases by Age and Gender, San Bernardino County, 2015 (N=504)



Syphilis (All Stages), Male Incidence Rates by Race/Ethnicity and Age Group, San Bernardino County, 2015 (N=404)



Syphilis Cases by Stages, San Bernardino County, 2013 - 2015

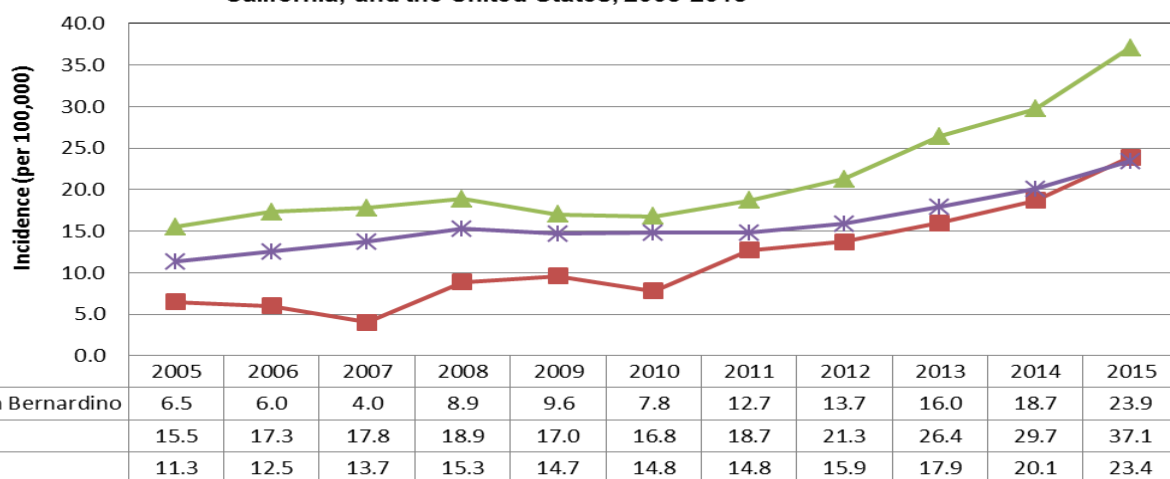


SYPHILIS, ALL STAGES

Syphilis (All Stages) Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	20	13	8	16	31	19	33	37	48	76	85
Black	16	28	17	21	26	23	29	40	60	61	85
Hispanic	60	60	32	85	87	75	126	117	141	196	277
Asian/PI	7	1	1	6	5	1	6	8	7	7	13
Native Am.	0	0	0	0	1	0	0	3	1	0	3
Other	1	1	0	0	0	0	5	2	3	11	8
Unknown	23	15	22	54	51	41	61	75	75	42	35
Total	127	118	80	182	201	159	260	282	335	393	506

Syphilis (All Stages) Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	3	0	0	3	1	0	0	1	4	4	4
1 - 4	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0	0	0
10 - 14	0	1	0	0	0	0	0	0	0	0	0
15 - 19	11	4	2	9	16	9	19	20	21	22	34
20 - 24	9	7	9	22	37	43	72	71	84	74	124
25 - 29	18	15	6	28	31	25	52	50	82	83	110
30 - 34	16	13	3	13	19	19	31	26	40	54	82
35 - 39	19	15	9	24	25	13	20	24	26	47	43
40 - 44	17	23	13	33	24	17	17	23	20	27	38
45 - 54	15	25	19	29	38	23	35	45	41	61	45
55 - 64	10	12	10	7	9	5	7	16	14	19	22
>65	9	3	9	14	1	5	7	6	3	2	4
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	127	118	80	182	201	159	260	282	335	393	506

Incidence Rates for Syphilis (All Stages) in San Bernardino County, California, and the United States, 2005-2015



PRIMARY/SECONDARY SYPHILIS

Infectious Agent: *Treponema pallidum*

Mode of Transmission: Contact with syphilis chancre on the genitalia, anus, or mouth, or during pregnancy or birth

Incubation Period: 21 days (range: 10-90 days)

Symptoms: Chancre, rash including palms and soles of feet, fever, swollen lymph glands, sore throat, hair loss, muscle aches and fatigue

Vaccine: None

For more information:

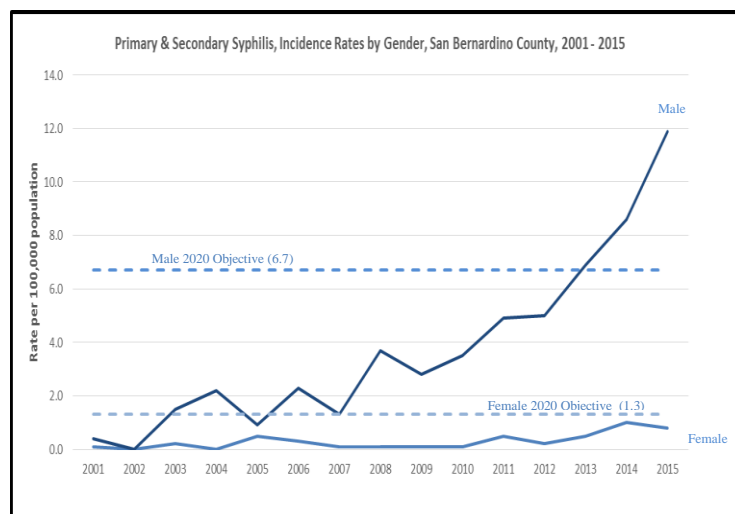
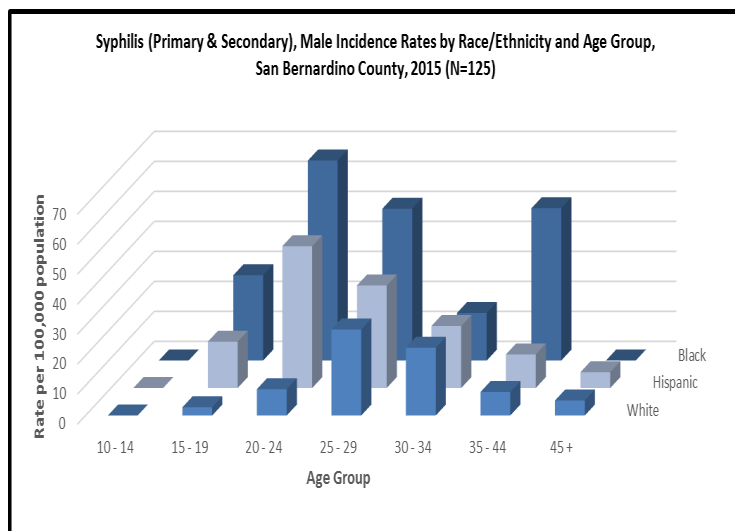
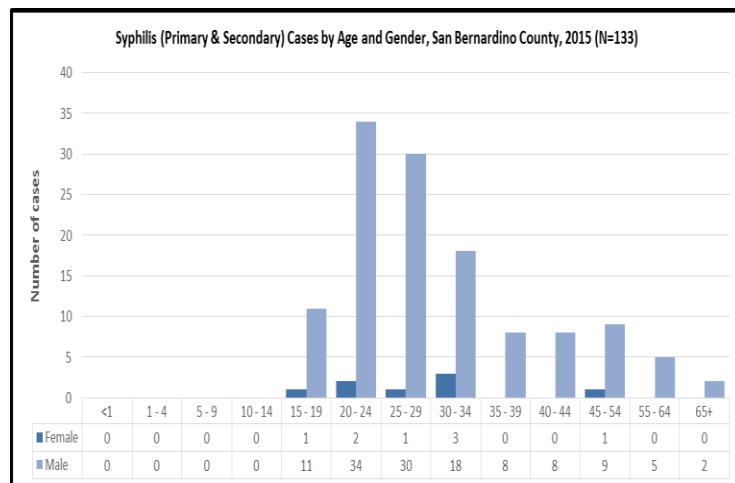
<http://www.cdc.gov/std/syphilis/default.htm>

2015 REVIEW

- In San Bernardino County, 94% of cases are males and half of all cases are in the 20-29 year old age group.
- A painless chancre is usually the first symptom, appearing at the site of the infection, lasting 3-6 weeks and healing whether the person was treated or not. The characteristic rash of the secondary stage appears as non-itchy, rough, red or reddish brown spots on the palms of the hands and the bottoms of the feet or other areas.
- The number of primary and secondary (P&S) cases, the most infectious stages, increased 329% in the County from 2010-2015.
- Among 2015 CA cases, the highest proportion of methamphetamine use was reported by females (25%).
- In 2015 among County cases, Blacks had rates two times that of Hispanics and Whites.
- In 2014 MSM account for 83% of P&S cases among men in the US.
- In the US in 2014, the West had the highest rate of P&S cases with increases seen in male and female rates in every region of the US.
- Nationally 51.2% of P&S cases among MSM are HIV-positive compared to 10.7% among heterosexual males and 5.9% of women.
- Among 2014 CA cases, 47.0% of MSM with P&S are HIV-positive.

PREVENTION

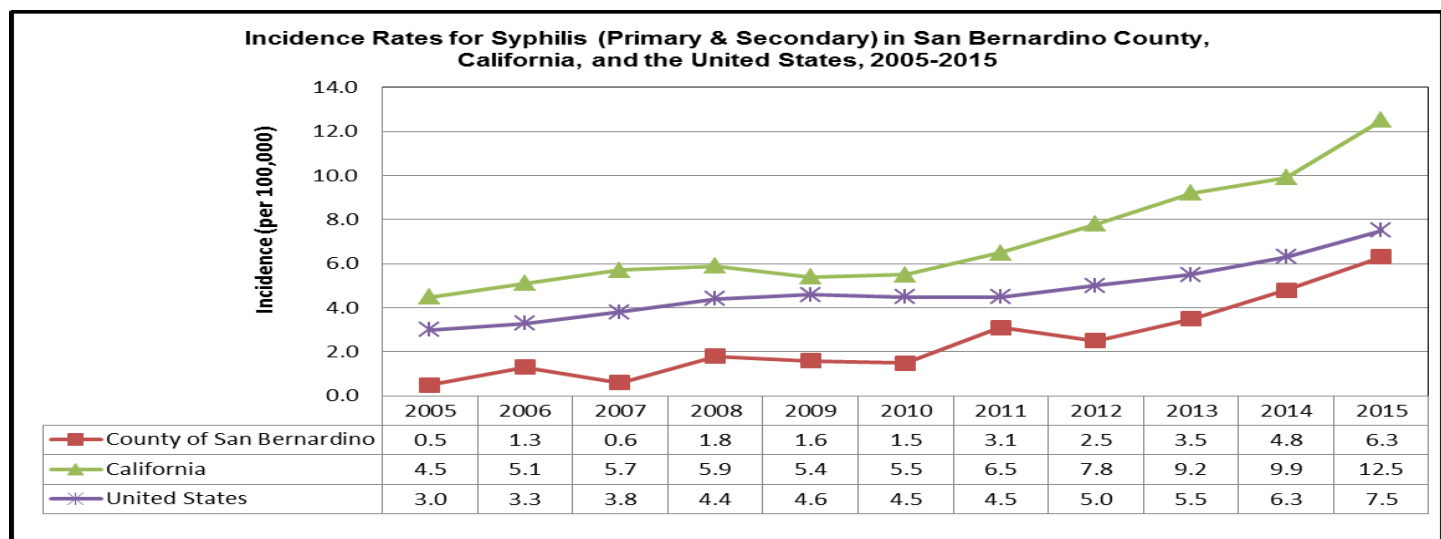
- Condoms if used correctly and consistently may prevent infection.
- Pregnant women should be screened at their first prenatal visit or more often if at increased risk.
- High risk individuals (HIV-infected, MSM, those with multiple sex partners) should be screened annually or as often as every 3-6 months for both syphilis and HIV if negative.
- P&S syphilis is easily treated with one penicillin injection; however it will not repair any damage already done.
- Individuals diagnosed with P&S syphilis should abstain from sex until after treatment and the chancre has healed (if visible).
- Individuals with sexually transmitted diseases such as P&S syphilis are also at increased risk of HIV and may benefit from an HIV pre-exposure (PrEP) regimen.



PRIMARY/SECONDARY SYPHILIS

Syphilis (Primary & Secondary) Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	2	5	0	10	8	5	11	10	13	31	28
Black	3	6	3	3	3	7	6	9	22	17	20
Hispanic	4	10	8	18	17	15	33	28	29	46	75
Asian/PI	0	1	0	0	3	0	1	0	3	2	6
Native Am.	0	0	0	0	0	0	0	2	0	0	2
Other	1	0	0	0	0	0	3	0	0	2	0
Unknown	0	3	2	7	3	4	10	2	6	2	2
Total	10	25	13	38	34	31	64	51	73	100	133

Syphilis (Primary & Secondary) Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	0	0	0	0	0	0	0	0	0	0	0
1 - 4	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0	0	0
10 - 14	0	0	0	0	0	0	0	0	0	0	0
15 - 19	0	1	0	4	4	1	7	6	9	9	12
20 - 24	3	2	2	6	9	11	25	14	19	24	36
25 - 29	4	3	1	11	8	6	14	9	20	17	31
30 - 34	1	1	2	1	3	2	4	6	10	9	21
35 - 39	1	5	3	5	3	5	4	1	4	11	8
40 - 44	0	4	5	3	1	1	3	6	2	6	8
45 - 54	1	5	0	5	6	5	5	7	4	17	10
55 - 64	0	4	0	2	0	0	1	2	4	7	5
>65	0	0	0	1	0	0	1	0	1	0	2
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	10	25	13	38	34	31	64	51	73	100	133



MENINGITIS, VIRAL

Infectious Agent: Many viruses, mainly enteroviruses in the U.S.

Mode of Transmission: Variable, depending on the specific infectious agent; enteroviruses are spread through fecal-oral route and respiratory secretions

Incubation Period: Variable, depending on infectious agent; for enteroviruses, 3-10 days

Symptoms: Usually cold-like symptoms, fever, and muscle aches or rashes

Vaccine: none

For more information: <http://www.cdc.gov/meningitis/viral.html>

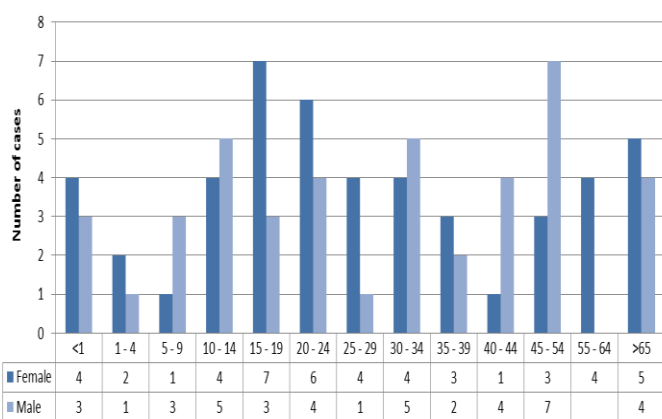
2015 REVIEW

- The numbers of reported cases did not change from 2014 to 2015.
- Peaks in reported cases were observed for age groups 15-19, 20-24 and 45-54 years of age.
- The greatest proportion of cases occurred among Hispanics (53.3%) and Whites (23.3%). Incidence rates were highest among Blacks (5.7) and Hispanics (4.5).
- Somewhat more cases occurred among females (53.3%) than males.
- More cases occurred during late summer months, which coincides with both known seasonality for enterovirus infections in the U.S. and could coincide with greater exposure to mosquito vectors.
- There are several groups of viruses that can cause meningitis; enteroviruses (fecal-oral), arboviruses (mosquitoes), and respiratory including influenza, mumps, measles and herpes.
- These viruses have different seasonalities and transmit disease in different ways.
- Most people will recover from infection after 7-10 days. Individuals with herpes or influenza will usually need additional treatment.
- While viral meningitis is generally less severe than other types, 2 County cases died in 2015.

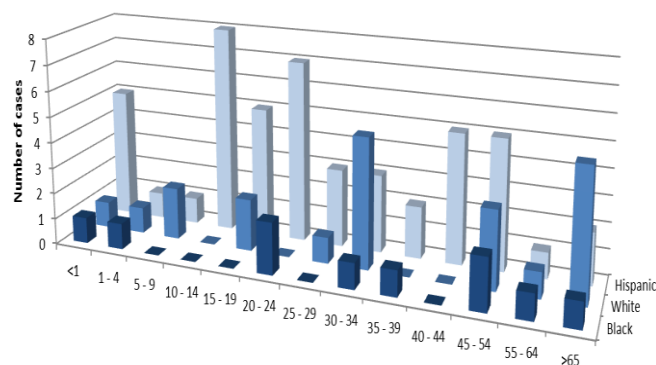
PREVENTION

- Cover nose and mouth with a tissue when coughing or sneezing.
- Wash hands often with soap and water, especially after coughing or sneezing.
- Stay up to date on routine childhood immunizations like measles, mumps and rubella and consider an annual influenza vaccine.
- Avoid sharing drinks, eating utensils, lipstick or other items that may be contaminated by saliva.
- Avoid close contact with sick people who may release viruses into the air.
- Consider disinfecting environmental surfaces with large amounts of hand contact, especially in child care centers.
- Avoid spending time outside when mosquitoes are most active.
- Wear shoes, socks, long pants and long-sleeved shirts that are loose fitting and light colored to prevent mosquito bites.
- Remove or drain all standing water around your property where mosquitoes lay eggs such as birdbaths, ponds, old tires, buckets, clogged gutters or puddles from leaky sprinklers.
- Apply insect repellent containing DEET.

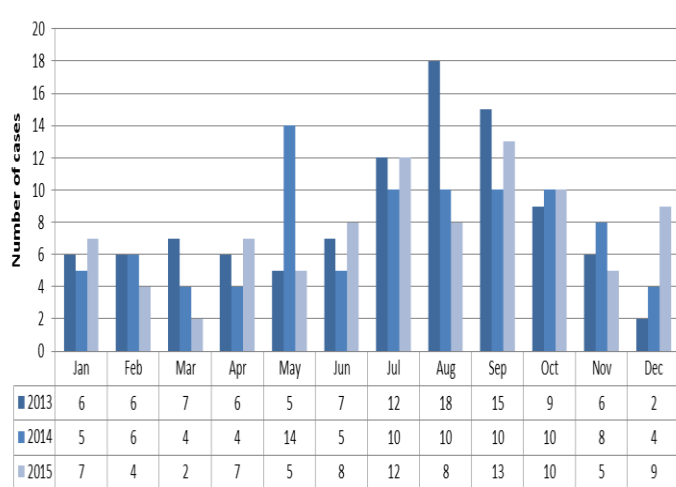
Viral Meningitis Cases by Age and Gender, San Bernardino County, 2015 (N=90)



Viral Meningitis Cases by Age and Race/Ethnicity, San Bernardino County, 2015 (N=79)



Seasonality: Viral Meningitis Cases by Month of Onset, San Bernardino County, 2013-2015

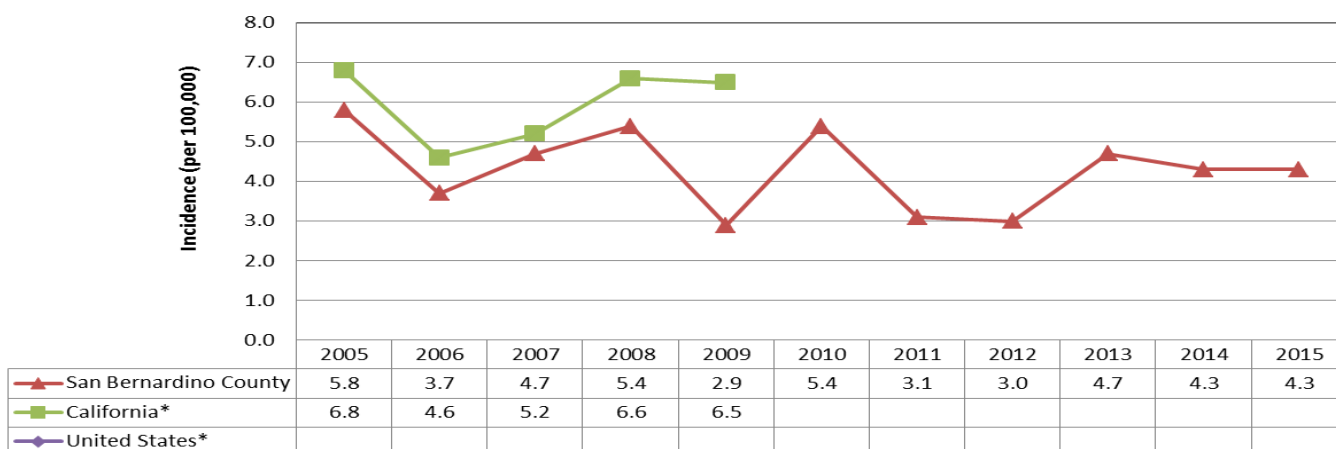


MENINGITIS, VIRAL

Viral Meningitis Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	37	26	27	36	17	30	23	26	29	38	21
Black	13	5	12	9	8	10	8	4	7	4	10
Hispanic	36	35	44	51	22	55	27	25	40	33	48
Asian/PI	5	1	1	4	1	5	4	3	4	2	3
Native Am.	0	0	0	0	0	0	0	0	0	0	0
Other	1	1	0	0	0	1	1	1	5	3	6
Unknown	21	5	10	10	13	17	5	3	14	10	2
Total	113	73	94	110	61	118	68	62	99	90	90

Viral Meningitis Cases by Age											
County of San Bernardino, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	10	12	16	11	4	9	8	3	14	5	7
1 - 4	6	1	3	7	2	9	2	2	2	2	3
5 - 9	10	1	4	15	4	11	10	3	4	2	4
10 - 14	8	7	12	10	8	12	5	2	7	6	9
15 - 19	8	7	9	13	5	12	7	2	9	5	10
20 - 24	11	4	7	7	9	14	10	5	10	10	10
25 - 29	9	14	3	11	6	8	5	6	9	14	5
30 - 34	10	5	5	7	3	12	3	7	8	8	9
35 - 39	10	3	11	4	6	7	2	5	11	4	5
40 - 44	12	4	5	4	3	7	2	5	5	4	5
45 - 54	8	6	10	10	9	6	6	11	11	13	10
55 - 64	5	5	6	6	1	5	4	6	3	6	4
>65	6	4	3	5	1	5	4	5	6	11	9
Unknown	0	0	0	0	0	1	0	0	0	0	0
Total	113	73	94	110	61	118	68	62	99	90	90

Incidence Rates for Viral Meningitis in San Bernardino County, California, and the United States, 2005-2015



*California data for 2010 - 2015 were not available at the time this report was published. Viral meningitis is not a nationally-notifiable condition.

RESPIRATORY SYNCYTIAL VIRUS (RSV)

Infectious Agent: Respiratory syncytial virus (RSV)

Mode of Transmission: Through airborne respiratory droplets spread by an infected person coughing or sneezing or by direct or indirect contact with respiratory secretions from an infected person

Incubation Period: 4-6 days (range: 2-8 days)

Symptoms: Runny nose, decrease in appetite; coughing, sneezing, and fever typically develop 1 to 3 days later. Wheezing may also occur. In very young infants, irritability, decreased activity, and breathing difficulties may be the only symptoms.

Vaccine: None

For more information: <http://www.cdc.gov/rsv/>

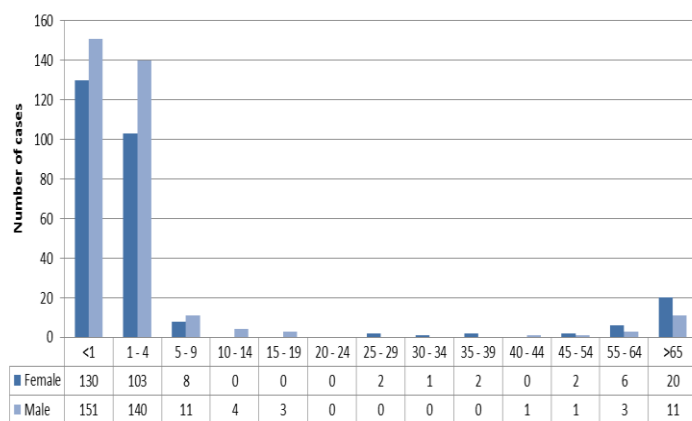
2015 REVIEW

- The numbers of reported cases increased 44.7% from 2014 to 2015. Incidence appears to fluctuate every two years and the general trend in incidence has been decreasing since 2004.
- Children 4 years and under accounted for 86.7% of County cases in 2015 with an incidence rate (329.7) 22 times that of the next highest age group (5-9; 14.5).
- The greatest proportion of cases occurred among Hispanics (57.2%) and Whites (26.92%) where race/ethnicity was identified. Blacks had the highest incidence rate at 24.5 followed by Hispanics (22.9).
- Males comprised 53.9% of cases.
- Infected infants most commonly manifest with cold-like symptoms. However 25-40% will show signs of pneumonia or bronchiolitis.
- Most children hospitalized are under 6 months of age.
- Almost all children have had RSV by 2 years of age.
- Infected individuals are contagious 3-8 days.
- Individuals at higher risk of complications include premature infants, those with chronic lung or heart disease and those with weakened immune systems.
- Increases in reported cases are seen in fall, winter and spring in the US.
- RSV can survive on hard surfaces such as tables and crib rails for hours.

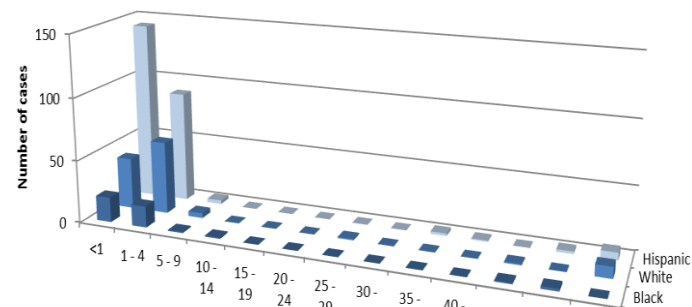
PREVENTION

- Cover nose and mouth when coughing or sneezing.
- Wash hands often with soap and water, especially after coughing or sneezing.
- Avoid sharing cups, eating utensils, lipsticks, or items that may be contaminated with saliva.
- Avoid close contact with sick people who may release the virus into the air while coughing or sneezing.
- Individuals with cold symptoms should not have close contact with children at increased risk of complications.
- Limit time high-risk children spend in childcare centers.
- Consider disinfecting surfaces that have a large amount of hand contact, especially in child care centers.

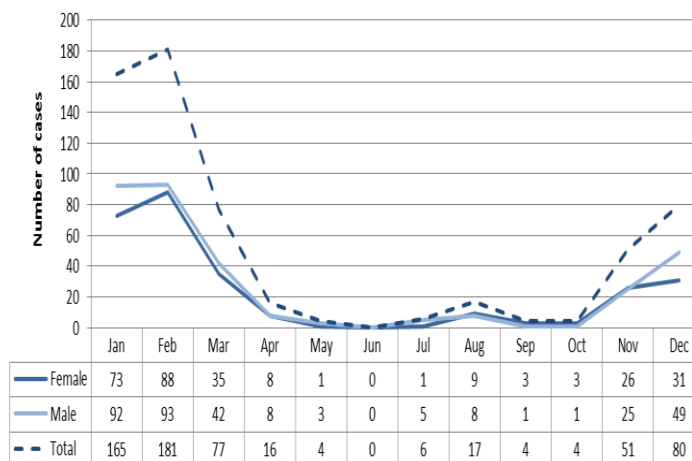
Respiratory Syncytial Virus (RSV) Cases by Age and Gender, San Bernardino County, 2015 (N=599)



Respiratory Syncytial Virus (RSV) Cases by Gender and Month, San Bernardino County, 2015 (N=402)



Respiratory Syncytial Virus (RSV) Cases by Gender and Month, San Bernardino County, 2015 (N=605)

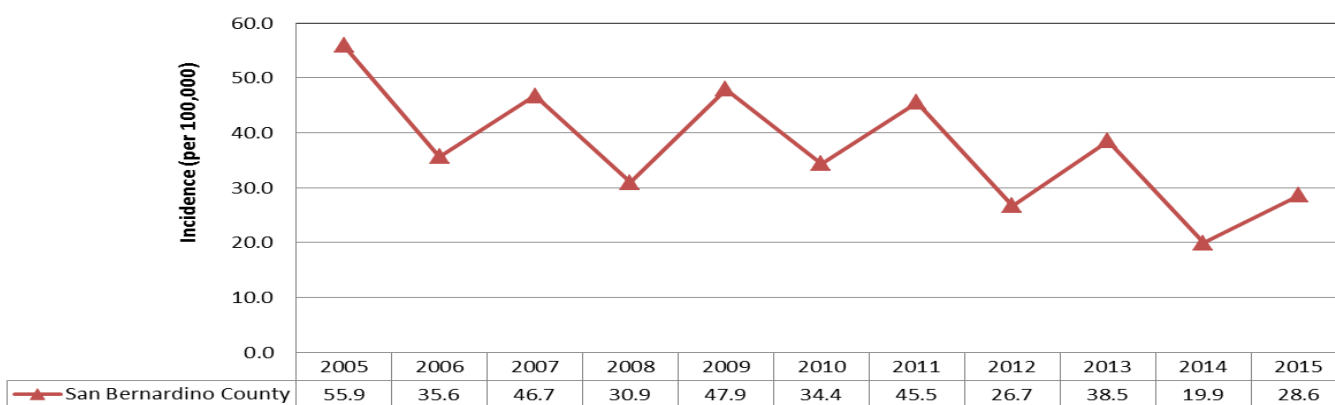


RESPIRATORY SYNCYTIAL VIRUS (RSV)

RSV Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	163	191	243	124	144	166	259	152	201	68	116
Black	50	40	60	44	60	65	97	67	58	22	43
Hispanic	211	307	404	290	359	321	438	243	326	120	247
Asian/PI	10	8	7	12	13	10	18	7	10	5	11
Native Am.	0	0	0	0	0	1	4	0	1	1	0
Other	5	2	0	0	0	2	2	20	35	14	15
Unknown	647	156	228	165	426	185	191	63	172	188	173
Total	1086	704	942	635	1002	750	1009	552	803	418	605

RSV Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	912	552	730	499	678	452	126	372	544	278	281
1 - 4	163	137	205	127	301	276	852	164	210	100	243
5 - 9	7	12	3	6	14	15	20	11	20	11	19
10 - 14	1	1	1	2	5	1	4	2	7	4	4
15 - 19	0	0	2	0	1	3	1	2	1	1	3
20 - 24	1	0	0	0	1	0	1	1	1	0	0
25 - 29	0	0	0	0	0	0	0	0	0	0	2
30 - 34	0	0	0	0	0	0	0	0	0	0	1
35 - 39	0	0	0	0	0	0	0	0	0	1	2
40 - 44	1	1	0	0	1	0	0	0	2	1	1
45 - 54	1	0	0	0	0	1	0	0	1	0	3
55 - 64	0	0	0	0	0	1	2	0	1	3	9
>65	0	1	1	1	1	1	3	0	11	14	31
Unknown	0	0	0	0	0	0	0	0	5	5	6
Total	1086	704	942	635	1002	750	1009	552	803	418	605

Incidence Rates for Respiratory Syncytial Virus (RSV) in San Bernardino County, 2005-2015



*RSV became reportable in County of San Bernardino in 2002.
RSV is not reportable in California and is not nationally-notifiable.

TUBERCULOSIS (TB)

Infectious Agent: *Mycobacterium tuberculosis* complex, a group of acid-fast bacilli

Mode of Transmission: Inhalation of infectious respiratory droplets produced by persons with pulmonary or respiratory TB

Incubation Period: Variable: 2-10 weeks from infection to demonstrable TST reaction or positive IGRA; less than 10% infected develop active TB in their lifetime, and half of those (5%) will develop symptoms within 2 years

Symptoms: Common symptoms of pulmonary TB include cough, fatigue, fever, weight loss, night sweats

Vaccine: None

For more information: <http://www.cdc.gov/tb/>

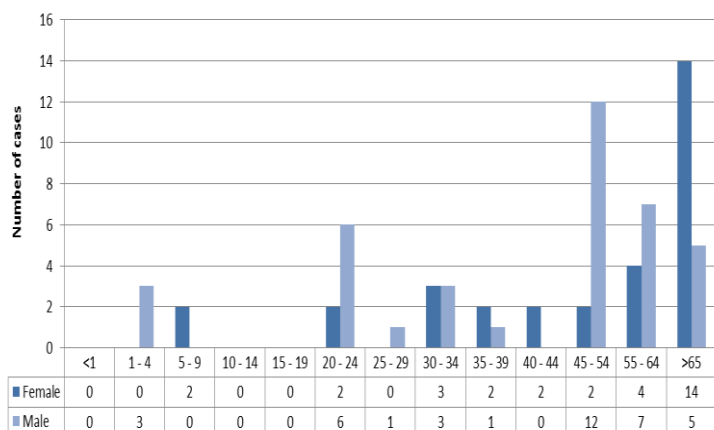
2015 REVIEW

- Numbers of reported cases increased 35.3% from 2014 (51) to 2015 (69). The County incidence rate is lower than that of California but higher than that of the US.
- Adults aged 45 years and older accounted for 63.8% of cases.
- The largest proportion of cases occurred among Hispanics (52.2%) and Asian/Pacific Islanders (40.6%). Incidence rates were highest among Asian/Pacific Islanders (21.1), and 6 times that of Hispanics (3.3).
- Males comprised 55.1% of County cases in 2015.
- Eighty-three percent of County cases occurred among foreign-born residents.
- Most cases are from Central America, including Mexico (40.6%), followed by Southeast Asia (33.0%), including the Philippines and Vietnam, and the United States (17.4%).
- The proportion of TB cases that were pulmonary (infectious) decreased from 84.3% in 2014 to 78.3% in 2015.
- About 6% of 2015 County cases were homeless, 3% were residents of long term care facilities, 2% were contacts to infectious cases and 1% were incarcerated.
- Co-morbidities among the County cases included diabetes (33.3%), end stage renal disease (4.3%) and HIV (2.9%).
- Three (4.3%) of the 2015 cases died.
- No 2015 County cases were multidrug-resistant (MDR).
- Among California's 2015 cases, 7% were imported into the US, 13% were the result of recent transmission, and 80% were reactivation of latent infection.

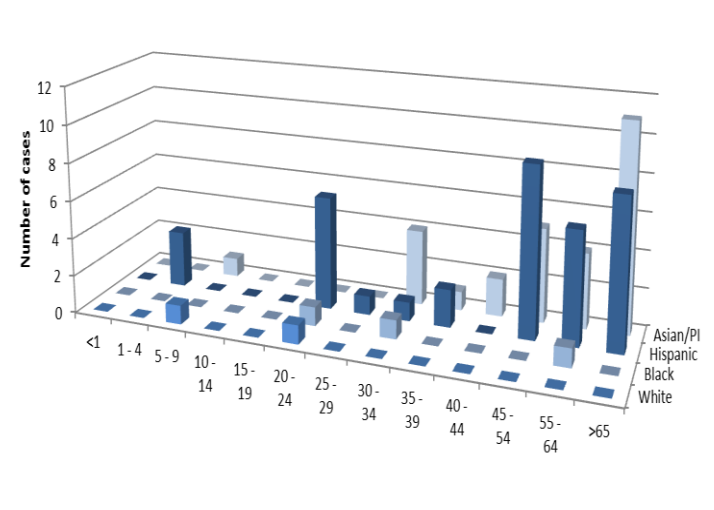
PREVENTION

- Early diagnosis and treatment of active TB cases, particularly the most infectious smear-positive pulmonary cases, is the best method of preventing the spread of TB.
- Active case finding through contact investigation of pulmonary TB cases helps to reduce transmission.
- Treat latent TB infections with isoniazid (INH) for 6-9 months or Rifampentine to prevent progression to active disease.
- Screen HIV-infected people for TB during their first clinical evaluation and vice versa.
- Provide directly observed therapy (DOT) for TB cases.
- Educate TB cases, their contacts, and the public about the means of transmission, control, and importance of adherence to treatment.

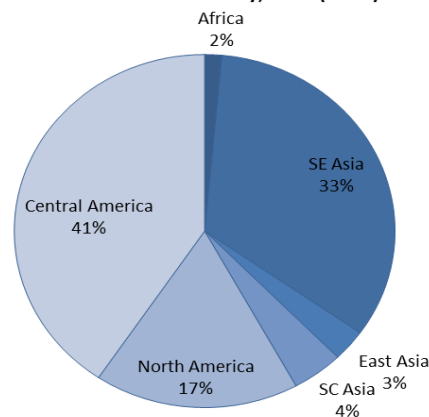
Tuberculosis Cases by Age and Gender, San Bernardino County, 2015 (N=69)



Tuberculosis Cases by Age and Race/Ethnicity, San Bernardino County, 2015 (N=69)



Tuberculosis Cases by Country/Region of Origin, of San Bernardino County, 2015 (N=69)

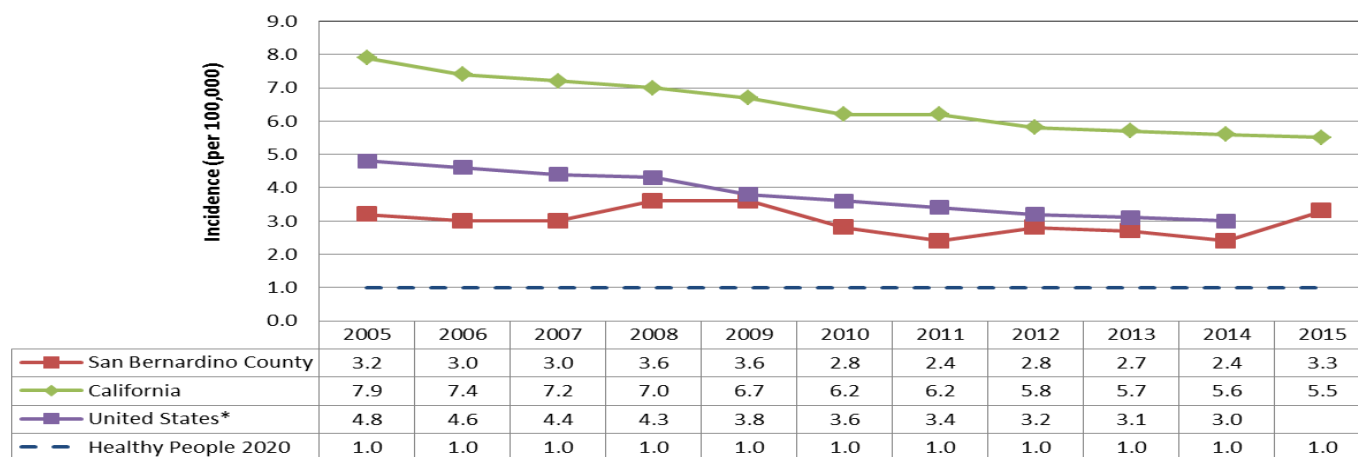


TUBERCULOSIS (TB)

Tuberculosis Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	6	4	13	8	8	6	4	2	6	3	2
Black	4	1	5	5	4	6	4	5	4	1	3
Hispanic	35	38	25	28	26	29	25	29	27	29	36
Asian/PI	14	15	11	23	29	21	19	21	20	18	28
Native Am.	0	0	0	1	1	0	0	1	0	0	0
Other	0	1	0	1	2	0	0	0	0	0	0
Unknown	4	0	6	9	9	0	0	0	0	0	0
Total	63	59	60	75	79	62	52	58	57	51	69

Tuberculosis Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	0	2	0	0	2	0	0	0	0	1	0
1 - 4	4	1	1	1	3	0	2	1	3	2	3
5 - 9	0	1	1	0	2	0	0	1	2	1	2
10 - 14	0	1	1	0	1	1	0	0	2	0	0
15 - 19	5	1	1	2	2	4	1	2	3	1	0
20 - 24	2	1	1	6	6	2	1	2	2	1	8
25 - 29	5	5	4	3	8	4	7	7	2	7	1
30 - 34	3	4	11	4	10	2	1	1	6	5	6
35 - 39	4	7	3	12	3	3	2	3	1	3	3
40 - 44	6	2	7	3	8	6	8	1	3	5	2
45 - 54	12	7	9	13	10	17	11	7	10	6	14
55 - 64	7	6	8	12	8	4	9	16	8	3	11
>65	15	21	13	19	16	19	10	17	15	16	19
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	63	59	60	75	79	62	52	58	57	51	69

Incidence Rates for Tuberculosis in San Bernardino County, California, and the United States, 2005-2015



*U.S. data for 2015 were not available at the time this report was published.

COCCIDIOIDOMYCOSIS

Infectious Agent: *Coccidioides immitis* or *posadasii*, a fungus

Mode of Transmission: Inhalation of spores in the air, especially after disruption of soil

Incubation Period: 1-4 weeks for primary infection; up to years for disseminated infection

Symptoms: Fever, cough, headache, rash on upper trunk or extremities, muscle aches, joint pain in the knees or ankles; advanced disease may involve multiple organs, chronic pneumonia, bone or joint infection

Vaccine: None

For more information:

<http://www.cdc.gov/fungal/diseases/coccidioidomycosis/index.html>

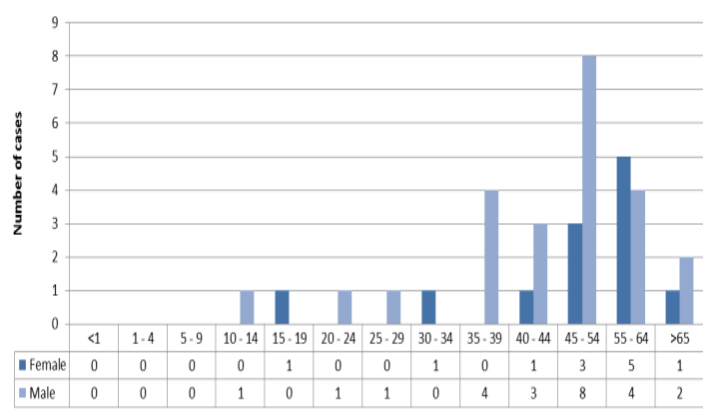
2015 REVIEW

- Numbers of reported cases decreased 20% from 2014 (45) to 2015 (36). Incidence in the County is consistently lower than that of California and the US.
- The highest proportion (77.8%) of cases occurred among adults aged 35-64 years.
- Hispanics accounted for 30.5% of cases, Whites 25%, and Blacks 13.9% of cases. The highest rate is among Blacks (2.8), followed by Whites (1.3) and Hispanics (1.0).
- Some 60% of infections are asymptomatic and resolve on their own. Five to 10% of infections will develop serious or long term lung complications. In 1%, the infection spreads from the lungs to the nervous system, skin, bones or joints.
- Adults older than 60 years, immune compromised individuals, pregnant women, Blacks, Filipinos, and Hispanics are at higher risk for severe disseminated disease.
- Approximately 31% of cases (n=11) occurred among institutionalized¹ residents of County jails and prisons. These cases may have been exposed and infected in another jurisdiction.²
- Males comprised 66.7% of cases, comparable to proportions observed in past years.
- In 2015, there was 1 death among County coccidioidomycosis cases.
- Individuals who engage in recreational or occupational activities, e.g. construction, farming, military, or archaeology, are at higher risk of infection if they inhale spores from dirt that is disturbed.

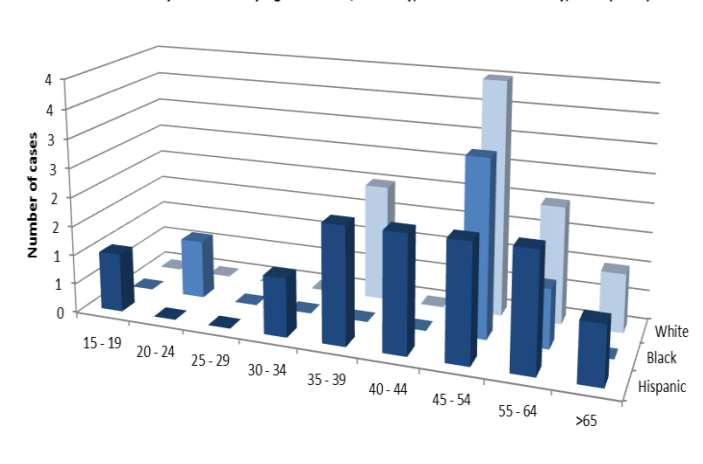
PREVENTION

- If traveling to or living in an endemic environment (California, Arizona, New Mexico), avoid dusty areas when possible.
- Consider wearing an N95 mask if in or near a dusty environment where construction is taking place.
- Clean clothes and skin carefully if exposed to soil or dust, including injuries.
- Cover dirt areas near your home with grass or other ground cover. Wet dirt areas before doing outside chores.
- Stay inside during dust storms and close your windows.

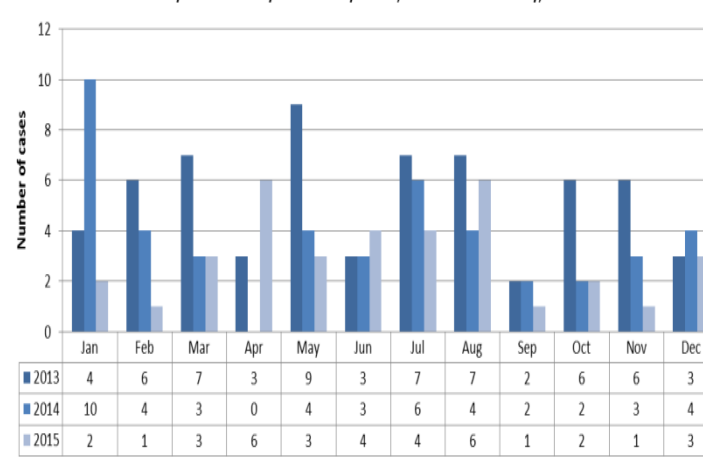
Coccidioidomycosis Cases by Age and Gender, San Bernardino, County 2015 (N=36)



Coccidioidomycosis Cases by Age and Race/Ethnicity, San Bernardino County, 2015 (N=25)



Seasonality: Coccidioidomycosis Cases by Month, San Bernardino County, 2013-2015



¹ San Bernardino County encompasses several local, state, and federal jails, prisons, and detention centers.

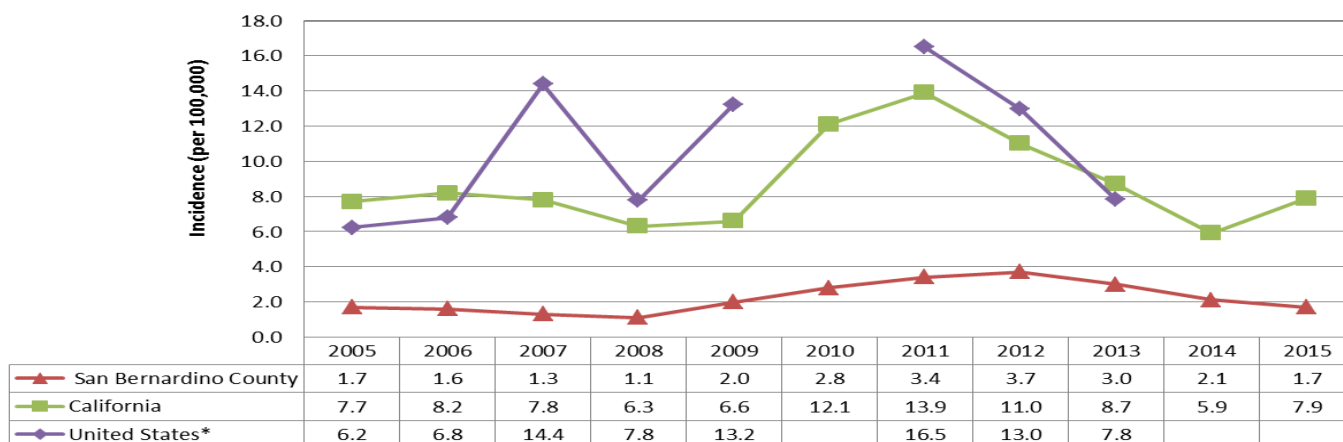
² Inmates in state prisons are screened upon entry to each facility to which they are transferred.

COCCIDIOIDOMYCOSIS

Coccidioidomycosis Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	5	13	9	10	9	14	18	17	15	8	9
Black	7	3	5	2	5	8	9	16	11	8	5
Hispanic	11	11	7	6	10	17	25	24	13	10	11
Asian/PI	1	2	1	2	1	2	0	3	4	3	1
Native Am.	0	0	0	0	0	0	0	0	1	0	0
Other	0	0	0	0	0	0	0	2	0	0	2
Unknown	9	3	4	2	17	19	23	14	19	16	8
Total	33	32	26	22	42	60	75	76	63	45	36

Coccidioidomycosis Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	0	0	0	0	0	0	0	0	0	0	0
1 - 4	0	0	0	0	0	0	1	0	1	0	0
5 - 9	0	0	0	0	1	0	0	0	0	1	0
10 - 14	1	0	0	0	3	0	0	0	0	0	1
15 - 19	2	1	0	1	1	0	3	1	0	1	1
20 - 24	2	3	0	1	2	2	5	2	3	1	1
25 - 29	2	1	3	2	1	4	2	6	5	4	1
30 - 34	1	1	3	1	3	5	7	4	3	3	1
35 - 39	2	4	3	2	1	8	5	8	1	7	4
40 - 44	9	3	0	1	5	6	6	6	6	7	4
45 - 54	5	8	10	7	9	14	27	25	18	11	11
55 - 64	7	7	5	5	9	15	6	11	13	4	9
>65	2	4	2	2	7	6	13	13	13	6	3
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	33	32	26	22	42	60	75	76	63	45	36

Incidence Rates for Coccidioidomycosis in San Bernardino County, California, and the United States, 2005-2015



*U.S. data for 2010, 2014, and 2015 were not available at the time this report was published

LEGIONELLOSIS

Infectious Agent: *Legionella pneumophila*, a bacteria

Mode of Transmission: Inhalation of bacteria in the air or water, commonly from warm, moist environments (e.g. spas, humidifiers, air conditioning towers)

Incubation Period: 5-6 days (range: 2-10 days) for Legionnaire's disease; 24-48 hours (range: 5-72 hours) for Pontiac fever

Symptoms: Anorexia (loss of appetite), muscles aches, headache, fever, abdominal pain, diarrhea; Legionnaire's disease: pneumonia, non-productive cough; Pontiac fever: self-limited fever

Vaccine: None

For more information:

<http://www.cdc.gov/legionella/index.html>

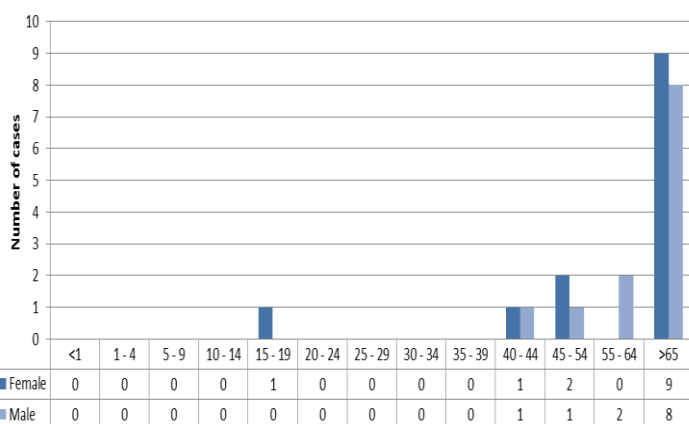
2015 REVIEW

- Numbers of reported cases increased 19% from 2014 to 2015. The largest increase in cases occurred among people aged 65 years and older.
- County cases are clustered in the 40 year and older age range with 68% of cases in individuals older than 65 years.
- Whites (32%) and Hispanics (32%) comprised the largest proportions of cases. Blacks (3.4) had the highest rates of infection, almost 3 times that of Whites (1.2) and 4 times that of Hispanics (0.7).
- In 2015, there were 4 County deaths attributed to Legionnaires' disease.
- Nationally, most illness occurs in the summer and early fall.
- Infection has been associated with hot tubs, hot water tanks, large plumbing systems in hotels, resorts, cruise ships, hospitals and nursing homes and decorative fountains,
- Severe illness is more likely to occur in individuals 50 years and older, current or former smokers, individuals with chronic lung disease, weakened immune systems, renal or hepatic failure and diabetes. Infection can cause death in 5-30% of these individuals.
- *Legionella* multiplies within amoebae and ciliated protozoa, obtaining nutrients and shelter from adverse environmental changes including chlorine.
- Legionnaire's and the milder Pontiac fever are caused by the same bacteria however Pontiac fever may be the result of inhaled antigen instead of bacterial invasion.

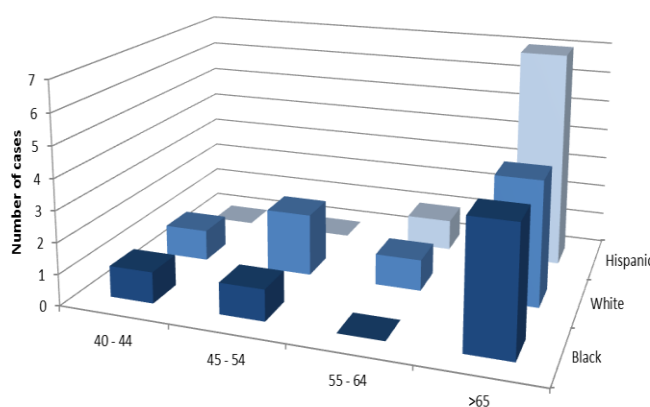
PREVENTION

- Tap water should not be used in respiratory therapy devices.
- Cooling towers should be drained when not in use and mechanically cleaned to remove scale and sediment.
- Water treatment chemicals should be used at appropriate levels and intervals to prohibit growth of *Legionella* in pools and spas.
- Pool test strips can be used to check hot tub water for adequate free chlorine or bromine and pH.
- Hot tub maintenance should include removal of biofilm, and replacement of the water filter and hot water according to manufacturer recommendations.

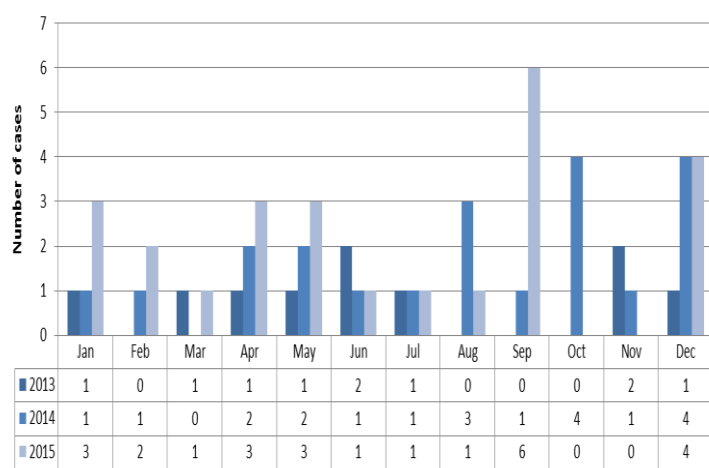
Legionellosis Cases by Age and Gender, San Bernardino County, 2015 (N=25)



Legionellosis Cases by Age and Race/Ethnicity, San Bernardino County, 2015 (N=22)



Seasonality: Legionellosis Cases by Month of Onset, San Bernardino County, 2013-2015

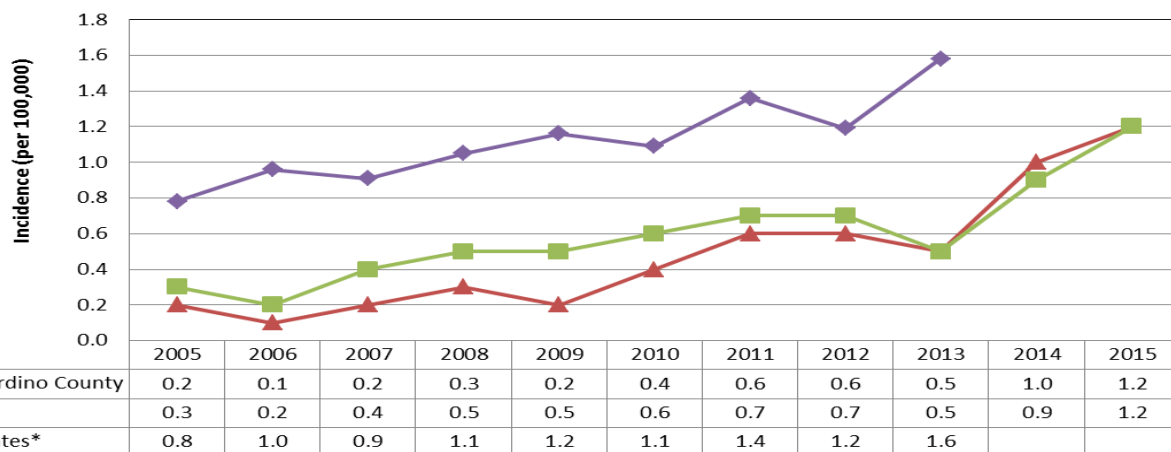


LEGIONELLOSIS

Legionellosis Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	2	0	2	5	1	0	9	6	4	10	8
Black	1	0	0	0	2	0	4	0	1	1	6
Hispanic	0	1	2	1	0	4	1	1	3	8	8
Asian/PI	0	0	0	0	0	0	0	0	0	1	0
Native Am.	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	1	0	1	1
Unknown	0	0	0	1	1	4	0	4	2	0	2
Total	3	1	4	7	4	8	14	12	10	21	25

Legionellosis Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	0	0	0	0	0	0	0	0	0	0	0
1 - 4	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	1	0	0	0	0
10 - 14	0	0	0	0	0	0	0	0	0	0	0
15 - 19	0	0	0	0	0	0	0	0	0	0	1
20 - 24	0	0	0	0	0	0	1	0	0	0	0
25 - 29	0	1	0	0	1	0	0	0	0	0	0
30 - 34	0	0	0	0	0	1	0	0	0	0	0
35 - 39	0	0	0	0	0	0	1	1	2	1	0
40 - 44	0	0	0	0	0	1	0	0	2	1	2
45 - 54	2	0	2	1	2	1	3	5	1	4	3
55 - 64	0	0	1	2	1	1	6	0	3	4	2
>65	1	0	1	4	0	4	2	6	2	11	17
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	3	1	4	7	4	8	14	12	10	21	25

Incidence Rates for Legionellosis in San Bernardino County, California, and the United States, 2005-2015



*U.S. data for 2014 - 2015 were not available at the time this report was published

RABIES

Infectious Agent: Usually rabies virus, one of a group of Lyssaviruses known to cause rabies

Mode of Transmission: Through direct contact with infectious saliva or infected neurological tissue as in a bite or tear in the skin; possibly through airborne transmission as in bat caves or laboratories; rarely through organ donation

Incubation Period: Highly variable in humans, usually 3-8 weeks, but can be as short as a few days or as long as several years

Symptoms: Humans—early symptoms include fever, headache, general weakness; later symptoms include confusion, slight or partial paralysis, hallucinations, difficulty swallowing, and hydrophobia (fear of water), and ultimately, death. Animals—unusually tameness in wild animals; nocturnal animals active during the day; difficulty walking, eating, or drinking; aggressiveness

Vaccine: Available for both animals and humans

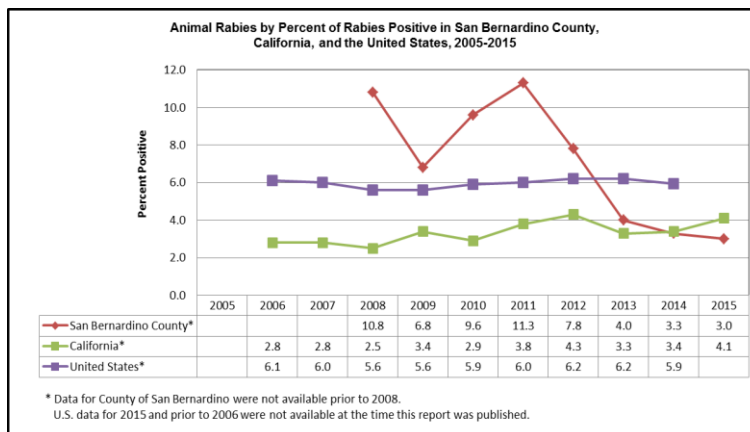
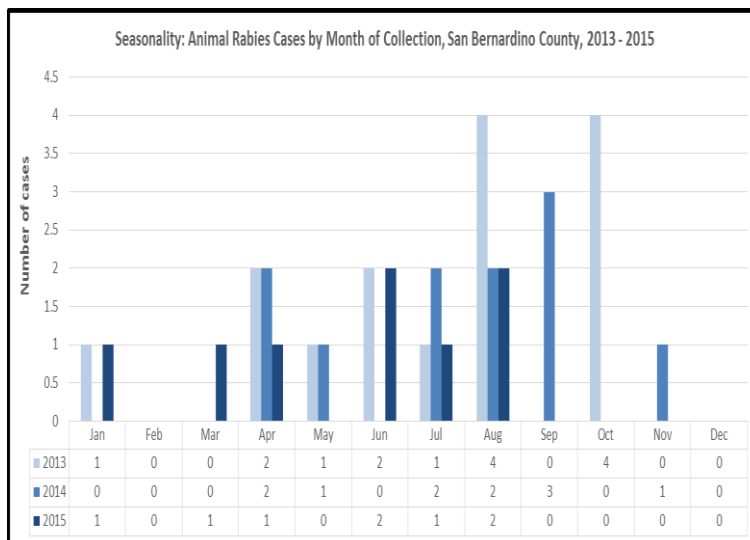
For more information: <http://www.cdc.gov/rabies/index.html>

2015 REVIEW

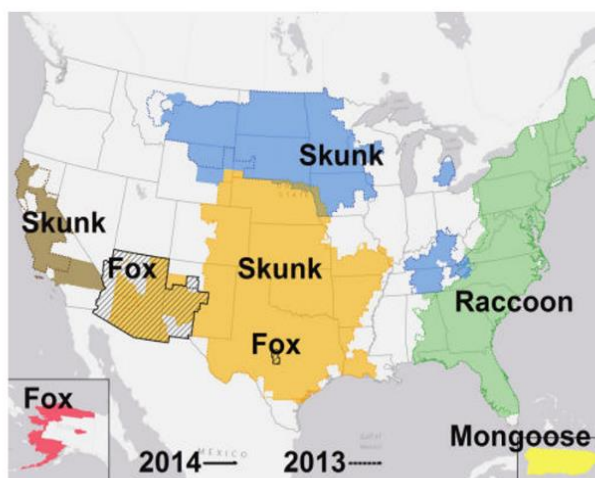
- Most rabid bats were found in late spring through early fall (April to September), consistent with the time when many young bats leave the roost.
- In 2015, Communicable Disease Section staff investigated 374 animal bites and exposures and facilitated post exposure treatment in 10 individuals. In 2011, over 50,000 bites were reported in California.
- The most common bite victims are children under 10 years, with the most common biting species being dogs.
- In San Bernardino County, the last rabid dog was detected in 1948, and the last rabid cat was identified in 1993.
- In California about 200 animals, mostly wild animals, test positive for rabies each year. Since 1980, 15 humans have developed rabies in California.
- Twenty-seven of the 37 human rabies cases in the US since 2003 have been associated with bats.
- More cows (78) were found to be rabid than dogs (59) in 2014 in the US due to high rates of rabies vaccination in dogs.

PREVENTION

- To prevent rabies in animals, keep dogs and cats up to date on their vaccinations and limit their exposure to wild life.
- Avoid contact with unfamiliar or injured domestic and wild animals.
- Most animal bites are provoked. Teach children how to interact safely with known dogs and to avoid contact with dogs unknown to them. Young children should never be left alone with a dog, even one known to them.
- If bitten, especially by a wild animal, seek prompt medical care.
- Individuals at higher risk for rabies because of occupation or travel, should consider pre exposure vaccination.



Distribution of major rabies virus variants among mesocarnivores in the United States and Puerto Rico for 2008 through 2014.



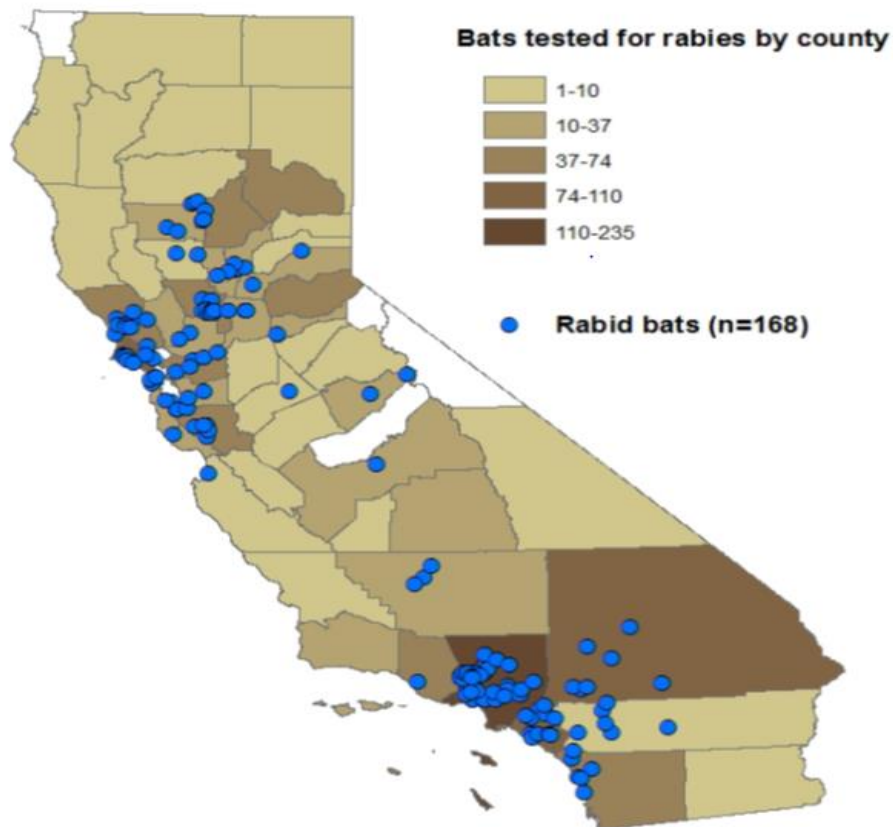
Source: Rabies surveillance in the United States during 2014. (CDC)

RABIES

Animal Rabies Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Fox	0	0	0	0	0	0	0	0	0	0	0
Coyote	0	0	0	0	0	0	0	0	0	0	0
Cat	0	0	0	0	0	0	0	0	0	0	0
Dog	0	0	0	0	0	0	0	0	0	0	0
Skunk	0	0	0	0	0	0	0	0	1	0	0
Bat	5	6	9	12	5	7	12	10	14	11	8
Total	5	6	9	12	5	7	12	10	15	11	8

Human Rabies Cases in San Bernardino County, California, and United States, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
County of San Bernardino	0	0	0	0	0	0	0	0	0	0	0
California	0	1	0	1	0	0	1	1	0	0	0
United States	1	3	1	2	4	2	6	1	2	1	2

Bats tested for rabies by county with positive cases by zip code of collection site,
California, 2014.



Source: Rabies Surveillance in California, Annual Report, 2014. (CDPH)

WEST NILE VIRUS

Infectious Agent: West Nile virus

Mode of Transmission: Through the bite of an infected mosquito which injects the virus into the blood

Incubation Period: 2-14 days

Symptoms: Most infections are asymptomatic; fever, muscle aches, headache, diarrhea, vomiting, swollen lymph glands, or skin rash on chest, stomach, back; can progress to acute encephalopathy, coma, tremors, convulsions, vision loss, numbness, and paralysis

Vaccine: None

For more information:

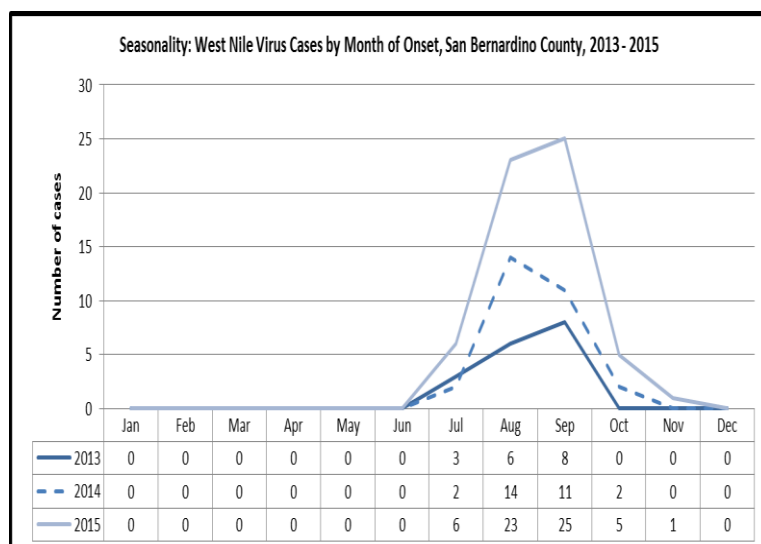
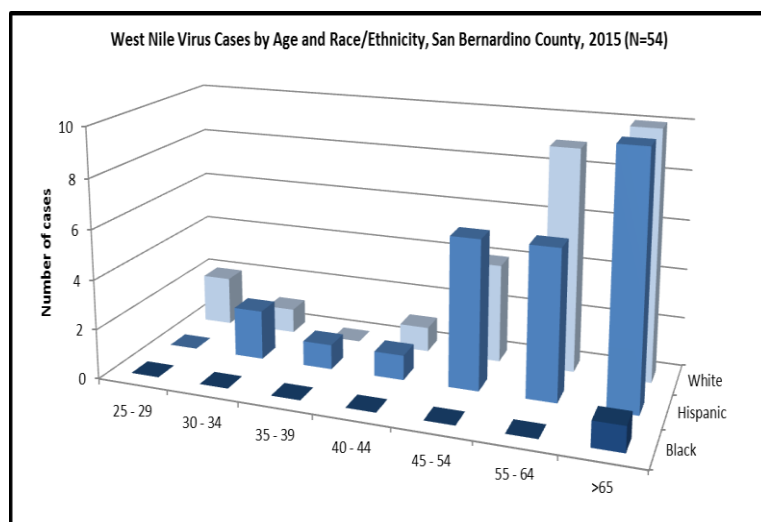
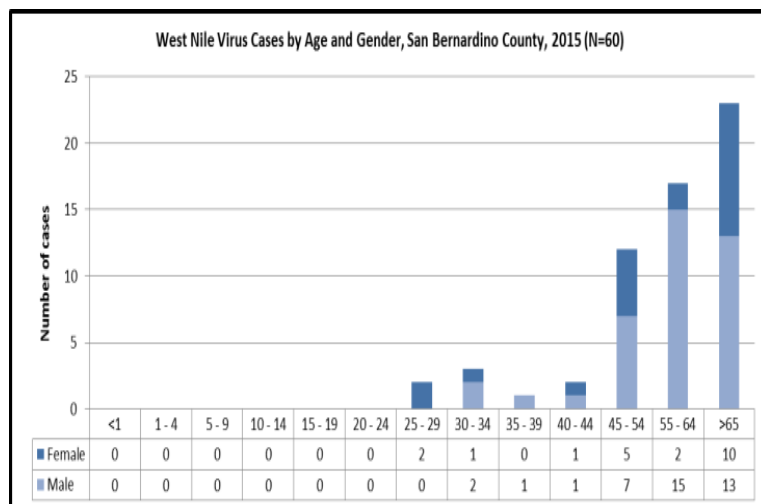
<http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

2015 REVIEW

- Numbers of reported cases doubled in the County from 2014 to 2015.
- Hispanics (43.3%) and Whites (45%) comprised the greatest proportion of cases. Whites (4.0) had a higher incidence rate than Hispanics (2.4).
- Up to 80% of individuals with infection will show no symptoms; about 20% will have the milder fever presentation, and less than 1% (1 in 150) will have the very serious neurologic involvement. About 10% of the cases with neurologic WNV die.
- Of 2015 County cases, 78.3% were neurological in presentation, compared to 11.7% fever and 10.0% asymptomatic.
- Eighty-seven percent of 2015 cases in the County occurred among individuals 45-64 years of age.
- There were 3 deaths in 2015 among County WNV cases.
- In addition to mosquito bites, WNV can also be transmitted by blood transfusions, organ transplants, laboratory accidents and from mother to child during pregnancy, delivery and breast feeding.
- Cases occurred mainly in the late summer and early fall months, from July through October.
- Horses, birds and tree squirrels can become very ill with WNV which is why dead birds are considered an indicator of WNV activity in an area.
- Local vector control agencies collect and test mosquitoes, dead birds, and sentinel chicken flocks for evidence of WNV activity.

PREVENTION

- Avoid spending time outside when mosquitoes are most active (dawn and dusk).
- Wear shoes, socks, long pants and long-sleeved shirts that are loose-fitting and light colored.
- Drain all standing water around your property where mosquitoes lay eggs such as birdbaths, ponds, old tires, buckets, clogged gutters or puddles from leaky sprinklers.
- Apply insect repellent containing DEET. When using DEET, be sure to read and follow the label instructions.
- Make sure doors and windows have tight-fitting screens. Repair or replace screens that have tears or holes to prevent mosquitoes from entering the home.

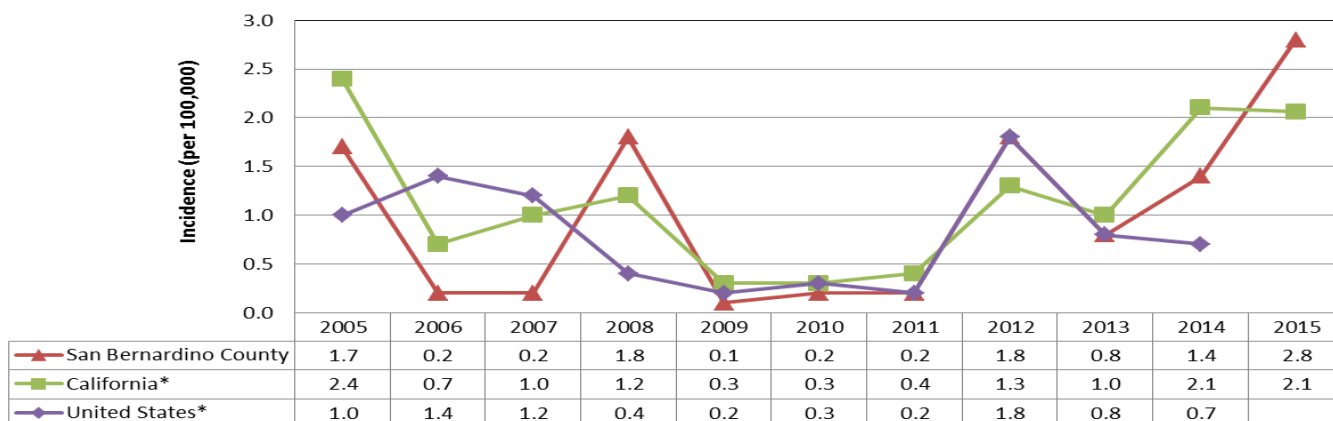


WEST NILE VIRUS

West Nile Virus Cases by Race/Ethnicity											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White	19	2	4	12	0	2	1	16	6	7	27
Black	1	0	0	0	0	0	0	0	0	1	1
Hispanic	7	1	0	18	1	3	2	18	8	18	26
Asian/PI	1	0	0	0	0	0	0	1	1	0	0
Native Am.	1	0	0	0	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	0	0	0	0	0
Unknown	3	0	1	6	1	0	1	2	2	4	6
Total	33	3	5	36	2	5	4	37	17	30	60

West Nile Virus Cases by Age											
San Bernardino County, 2005 - 2015											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<1	0	0	0	0	0	0	0	0	0	0	0
1 - 4	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	1	0	0	0	0	0	0	0
10 - 14	0	1	0	0	0	0	0	0	0	0	0
15 - 19	0	0	0	2	0	0	0	5	1	5	0
20 - 24	1	0	0	1	0	0	0	3	1	0	0
25 - 29	0	0	0	1	0	0	0	1	0	4	2
30 - 34	2	1	0	4	0	0	0	3	0	0	3
35 - 39	5	0	0	2	0	0	0	0	1	1	1
40 - 44	2	0	0	5	0	0	0	1	0	0	2
45 - 54	12	0	1	8	1	0	0	11	3	8	12
55 - 64	4	1	1	6	0	3	1	5	2	8	17
>65	7	0	3	6	1	2	3	8	9	4	23
Unknown	0	0	0	0	0	0	0	0	0	0	0
Total	33	3	5	36	2	5	4	37	17	30	60

Incidence Rates for West Nile Virus in San Bernardino County, California, and the United States, 2005-2015



*U.S. data for 2015 were not available at the time this report was published

GLOBAL DISEASES WITH LOCAL IMPACT

Chikungunya

The County reported nine cases of infection by the chikungunya virus in 2015, all were the result of travelers bitten by mosquitoes in other countries. Chikungunya occurs in Africa and South and Southeast Asia following bites by infected *Aedes albopictus* (Asian Tiger mosquito) and *Aedes aegypti* (yellow fever mosquito). In December 2013, chikungunya was identified in the Americas and spread into an outbreak of over a million cases. Chikungunya was first reported in California (CA) in 2014. In 2015, 271 cases were reported in CA, with the most common travel area Latin America (249). In the US, Florida had locally transmitted cases (local mosquitoes are infected) of chikungunya in 2014. The most common symptoms are fever and severe joint pain, often in the hands and feet. Illness may also include headache, muscle pain, joint swelling, fatigue, nausea, vomiting, diarrhea, abdominal pain or rash.

Dengue

In 2015 San Bernardino County reported two cases. Both were the result of mosquito bites incurred while travelling to Mexico. CA reported 125 cases in 2015 with the most common travel areas of Mexico (22) and Central America (26). No locally acquired cases have been reported. Dengue is one of four related viruses transmitted mostly by *A. aegypti* and *A. albopictus* mosquitoes, particularly in Saharan Africa, the Middle East, Southeast Asia and Central and South America. Some isolated dengue transmission has occurred in southern Texas and Hawaii. Worldwide there are an estimated 400 million cases per year with one-third of the world's population living in areas at risk for infection. The main symptoms of dengue are high fever, severe headache, pain behind the eyes, joint pain, muscle and bone pain, rash, bruising and sometimes mild bleeding from the nose or mouth. Patients with severe dengue infections continue to bleed and have abdominal pain with respiratory distress and fluid accumulation in the abdomen and lungs. Severe dengue infections can result in death.

Ebola

In 2014 there were no cases in San Bernardino County or CA while the US had four cases. Two of the US cases were imported and two were the result of contact with one of these cases. One of these initial patients died. The Centers for Disease Control and Prevention (CDC) set up a system of referral where names of travelers returning from certain countries impacted by Ebola were provided to local public health. During the outbreak, County public health staff monitored 42 travelers in 2014-2015 by making daily calls and asking about fevers and other symptoms. If a traveler developed symptoms, certain hospitals in the region were designated as evaluation hospitals and other more specialized hospitals as treatment facilities. All state and local first responder agencies, which might be called on to assist a symptomatic traveler, planned responses and conducted thorough trainings. Ebola virus is transmitted from person to person by contact with blood or body fluids of an infected individual. Worldwide an estimated 28,652 cases were reported between 2014 and March 2016, including 11,325 deaths. Prior to this, the US had had five imported cases of Viral Hemorrhagic Fever (VHF) similar to Ebola, (one Marburg and four Lassa Fever), in the last decade with no secondary transmission.

GLOBAL DISEASES WITH LOCAL IMPACT (CONTINUED)

Malaria

In 2015, three cases were reported among County residents. All three were *Plasmodium falciparum* and the result of travel to Nigeria. None of the three cases had taken malarial chemoprophylaxis. All three survived. CA reported 103 cases in 2015, with the most common species *P. falciparum* (52). The most common travel area for CA cases was Africa (63). Malaria is caused by the bite of mosquitoes infected with one of four types of small one-celled parasite called *Plasmodium* which infects and destroys red blood cells. Malaria occurs in sub-Saharan Africa, Southeast Asia, the Middle East, and Central and South America. Malaria was transmitted in California and other parts of the US until the 1950s. Between 1957 and 2015, there were 63 outbreaks of local transmission of malaria in the US. Worldwide there were an estimated 214 million illnesses due to malaria in 2015, including 438,000 deaths.

Middle East Respiratory Syndrome (MERS)

No cases of MERS-CoV were reported in San Bernardino County or CA in 2015. MERS is a severe acute respiratory illness caused by a coronavirus called MERS-CoV. Communicable Disease Section staff assisted with the testing and rule out of three County cases in 2015. Staff offered Centers for Disease Control and Prevention (CDC) infection control guidelines to protect hospital staff, collected symptoms and travel history and made arrangements for specimen testing in conjunction with the County Public Health Laboratory and that of the State. MERS was first identified in Jordan in 2012, and all subsequent cases have been linked by residence in or travel to countries in or near the Arabian Peninsula. Two cases have been reported in the US, both in May 2014, and both from Saudi Arabia.

Plague

Two cases of human plague were reported in CA in 2015, both associated with Yosemite National Park. Two chipmunks, 10 ground squirrels, 6 coyotes, and 1 bear tested positive for antibodies to plague in CA in 2014. There were no human plague cases in CA in 2014. Plague is caused by infection with the bacteria *Yersinia pestis* which is transmitted to humans and animals by flea bite. There are three forms of plague; bubonic, septicemic and pneumonic. Pneumonic plague can spread from person to person via respiratory secretions. The second plague pandemic, the "Black Death" in the 1300s, is estimated to have killed 60% of the European population. Plague has been present in CA since 1900 and exists in life cycles of wild rodents and fleas. *Y. pestis* is also considered a category A agent (highest priority) as a bioterrorism weapon. The vector control programs in many CA counties, including San Bernardino, trap rodents and carnivores and collect fleas for testing for evidence of *Y. pestis*.

Zika

The County reported its first cases of Zika in 2016, but began receiving calls from concerned residents and providers in 2015. The first cases in CA and the US were in 2015 and all associated with travel to areas known to have local transmission. Eleven cases were reported in CA in 2015. Zika virus is transmitted to individuals by the bite of an infected *Aedes* mosquito or by having sex with an infected person. Recent outbreaks of Zika have occurred in the Caribbean, Central and South America and Mexico. Zika infection may cause no symptoms or may cause relatively mild fever, rash, joint pain or conjunctivitis. Zika infection in pregnant women has been associated with microcephaly and other birth defects in newborns.

GLOBAL DISEASES WITH LOCAL IMPACT (CONTINUED)

How do travelers protect themselves

Visit CDC's Travelers' Health website at <http://wwwnc.cdc.gov/Travel> for destination-specific alerts and recommended vaccines. Many travel vaccines are provided by San Bernardino County's Clinic Operations. Call 800-722-4777 for availability and fee information. CDC also has many tips on avoiding mosquito bites and foodborne illness.

The California Department of Public Health recommends travelers to countries with Zika, chikungunya and/or dengue take appropriate precautions for avoiding mosquito bites during the day and at night. If a returning traveler, from an affected region, has fever with joint pain or rash within the two weeks of return, they should contact their medical provider. The provider will contact local public health who can assist with testing arrangements. Returning travelers with symptoms of a mosquito-borne illness should use mosquito repellent for three weeks following their return to avoid infecting local mosquitoes.

County Vector Control surveillance

Environmental Health Services (EHS) works to prevent mosquito-borne illness in County residents by conducting active mosquito surveillance and control. EHS traps and counts mosquitoes by species and sex in several areas of the County. EHS also surveys and conducts abatement of mosquito breeding areas in abandoned pools, dumps, tires and other areas. EHS participates in many community education opportunities to make County residents aware of available services and prevention steps they can take around their homes. In 2015-2016, EHS placed 1,537 traps in County-supported areas. While much of the mosquito trapping (and testing) has focused on West Nile Virus in the last few years, EHS is also actively watching for *Aedes aegypti* (yellow fever mosquito) and *Aedes albopictus* (Asian Tiger mosquito), the two mosquito vectors that can carry Zika, dengue, chikungunya and yellow fever. Both of these mosquito species have been found in this County and neighboring counties, although in small numbers locally.

Prevention of mosquito-transmitted infections involves preventing bites and removing standing water around your property. This includes draining or dumping water in birdbaths, green swimming pools, ponds, old tires, buckets, clogged gutters, and repairing leaky sprinklers. Avoid spending time outside when mosquitoes are most active. Wear shoes, socks, and long pants and long-sleeved shirts that are loose-fitting and light-colored. Apply DEET, Picaridin, IR3535 or oil of lemon eucalyptus according to manufacturer's directions. Make sure doors and windows have tight-fitting screens with no holes or tears. For more information on vector control in this County, please visit http://www.sbcounty.gov/dph/dehs/Depts/VectorControl/mosquito_and_vector_control_home.aspx.

APPENDICES

APPENDIX A: HEALTHY PEOPLE 2020 PROGRESS REPORT

Comparison of Progress toward Healthy People 2020 Goals for Selected Diseases¹, San Bernardino County and California

Reportable Disease	San Bernardino County 2015 Reportable Disease Rate ² per 100,000 population	California 2015 Reportable Disease Rate ⁴ per 100,000 population	Healthy People 2020 Goal Per 100,000 population
AIDS in Adolescents and Adults	3.5	6.9 (2014)	12.4
Campylobacteriosis	11.0*	21.4*	8.5
Shiga toxin-producing <i>E. coli</i> O157	1.0*	2.7*	0.6
Gonorrhea			
Females aged 15-44 years	286.8*	217.7	251.9
Males aged 15-44 years	273.9*	368.6*	194.8
Hepatitis A	0.2	0.5*	0.3
Hepatitis B (Acute) in Adults	0.9	0.4	1.5
Hepatitis C (Acute)	0.1	0.2 (2013)	0.25
HIV in Adolescents and Adults	4.1* per 100 people living with HIV	4.1* per 100 people living with HIV (2014)	3.5 per 100 people living with HIV
Listeriosis	0.1	0.3*	0.2
Salmonellosis	12.4*	14.3*	11.4
Syphilis, Congenital^{3, 5}	12.9*	28.2*	9.6
Syphilis, (Primary & Secondary)			
Females	0.8	2.4*	1.3
Males	11.9*	22.8*	6.7
Tuberculosis	3.3*	5.5*	1.0

* Denotes indicators that do not meet or exceed Healthy People 2020 goal.

¹ Selected diseases consist of those diseases for which Healthy People 2020 comparison can be made to local indicators produced from available data.

² County and State population data: State of California, Department of Finance, *Report P-3: State and County Population Projections by Race/Ethnicity, Detailed Age, and Gender, 2010-2060*. Sacramento, California, December 2014.

³ State of California, Department of Finance, Demographic Research Unit. *Historical and Projected State and County Births, 1970-2023, with Actual and Projected Fertility Rates by Mother's Age and Race/Ethnicity, 2000-2023*. Sacramento, California: December 2014.

⁴ Where California's 2015 data was not available, the most recent year is indicated in parentheses.

⁵ Rate is computed per 100,000 live births.

APPENDIX B: CALIFORNIA DEPARTMENT OF FINANCE POPULATION ESTIMATES

SAN BERNARDINO COUNTY POPULATION BY RACE/ETHNICITY, SEX, AND AGE: 2015

Age	All Race / Ethnicity			White			Hispanic			Asian / Pacific Islander			Black			Native American			Multiple Race		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
<1	31,246	15,929	15,317	6,980	3,559	3,421	18,719	9,544	9,175	1,461	745	716	2,551	1,298	1,253	110	56	54	1,425	727	698
1-4	122,860	62,635	60,225	28,162	14,347	13,815	73,174	37,332	35,842	6,147	3,132	3,015	9,882	5,021	4,861	418	215	203	5,077	2,588	2,489
5 - 9	157,156	80,380	76,776	33,079	16,872	16,207	98,797	50,683	48,114	7,280	3,719	3,561	12,049	6,050	5,999	386	197	189	5,565	2,859	2,706
10 - 14	154,793	79,475	75,318	32,628	16,965	15,663	97,516	49,925	47,591	7,555	3,893	3,662	11,721	5,940	5,781	438	225	213	4,935	2,527	2,408
15 - 19	165,714	84,842	80,872	36,570	19,078	17,492	101,604	51,758	49,846	8,109	4,170	3,939	13,878	7,029	6,849	561	275	286	4,992	2,532	2,460
20 - 24	178,310	91,692	86,618	43,614	22,729	20,885	103,395	52,844	50,551	8,465	4,401	4,064	17,359	8,997	8,362	719	356	363	4,758	2,365	2,393
25 - 29	159,926	82,735	77,191	45,803	24,407	21,396	85,783	43,875	41,908	8,251	4,396	3,855	15,771	7,897	7,874	780	433	347	3,538	1,727	1,811
30 - 34	145,102	73,479	71,623	43,041	22,143	20,898	76,744	38,683	38,061	9,449	4,652	4,797	12,409	6,311	6,098	666	361	305	2,793	1,329	1,464
35 - 39	133,788	66,444	67,344	38,259	19,459	18,800	72,738	36,052	36,686	9,449	4,391	5,058	10,425	5,146	5,279	551	289	262	2,366	1,107	1,259
40 - 44	132,327	64,843	67,484	37,401	18,846	18,555	72,054	35,255	36,799	10,387	4,766	5,621	9,866	4,703	5,163	569	295	274	2,050	978	1,072
45 - 54	273,363	134,781	138,582	96,755	48,172	48,583	127,630	63,789	63,841	19,831	9,092	10,739	23,881	11,265	12,616	1,437	678	759	3,829	1,785	2,044
55 - 64	236,682	114,684	121,998	110,482	54,713	55,769	83,134	40,170	42,964	18,339	8,310	10,029	20,196	9,336	10,860	1,402	661	741	3,129	1,494	1,635
65 +	225,194	101,392	123,802	123,038	56,637	66,401	64,874	28,537	36,337	17,856	7,693	10,163	15,472	6,759	8,713	1,273	599	674	2,681	1,167	1,514
Total	2,116,461	1,053,311	1,063,150	675,812	337,927	337,885	1,076,162	538,447	537,715	132,579	63,360	69,219	175,460	85,752	89,708	9,310	4,640	4,670	47,138	23,185	23,953

State of California, Department of Finance, Report P-3: State and County Population Projections by Race/Ethnicity, Detailed Age, and Gender, 2010-2060. Sacramento, California, December 2014.

APPENDIX C: REPORTABLE DISEASES AND CONDITIONS

Title 17, California Code of Regulations (CCR) §2500, §2593, §2641.5-2643.20, and §2800-2812 Reportable Diseases and Conditions*

§ 2500. REPORTING TO THE LOCAL HEALTH AUTHORITY.

- § 2500(b) It shall be the duty of every health care provider, knowing of or in attendance on a case or suspected case of any of the diseases or condition listed below, to report to the local health officer for the jurisdiction where the patient resides. Where no health care provider is in attendance, any individual having knowledge of a person who is suspected to be suffering from one of the diseases or conditions listed below may make such a report to the local health officer for the jurisdiction where the patient resides.
- § 2500(c) The administrator of each health facility, clinic, or other setting where more than one health care provider may know of a case, a suspected case or an outbreak of disease within the facility shall establish and be responsible for administrative procedures to assure that reports are made to the local officer.
- § 2500(a)(14) "Health care provider" means a physician and surgeon, a veterinarian, a podiatrist, a nurse practitioner, a physician assistant, a registered nurse, a nurse midwife, a school nurse, an infection control practitioner, a medical examiner, a coroner, or a dentist.

URGENCY REPORTING REQUIREMENTS [17 CCR §2500(h)(i)]

- Ⓢ ! = Report immediately by telephone (designated by a + in regulations).
 ‡ = Report immediately by telephone when two or more cases or suspected cases of foodborne disease from separate households are suspected to have the same source of illness (designated by a + in regulations).
 Ⓢ = Report by telephone within one working day of identification (designated by a + in regulations).
 FAX Ⓢ = Report by electronic transmission (including FAX), telephone, or mail within one working day of identification (designated by a + in regulations).
 = All other diseases/conditions should be reported by electronic transmission (including FAX), telephone, or mail within seven calendar days of identification.

REPORTABLE COMMUNICABLE DISEASES §2500(i)(1)

FAX Ⓢ	Amebiasis	FAX Ⓢ	Listeriosis
Ⓢ !	Anaplasmosis		Lyme Disease
FAX Ⓢ	Anthrax, human or animal	FAX Ⓢ	Malaria
Ⓢ !	Babesiosis	Ⓢ !	Measles (Rubeola)
Ⓢ !	Botulism (Infant, Foodborne, Wound, Other)	FAX Ⓢ	Meningitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic
	Brucellosis, animal (except infections due to <i>Brucella canis</i>)	Ⓢ !	Meningococcal Infections
Ⓢ !	Brucellosis, human		Mumps
FAX Ⓢ	Campylobacteriosis	Ⓢ !	Novel Virus Infection with Pandemic Potential
	Chancroid	Ⓢ !	Paralytic Shellfish Poisoning
FAX Ⓢ	Chickenpox (Varicella) (outbreaks, hospitalizations and deaths)	FAX Ⓢ	Pertussis (Whooping Cough)
	<i>Chlamydia trachomatis</i> infections, including lymphogranuloma venereum (LGV)	Ⓢ !	Plague, human or animal
FAX Ⓢ	Chikungunya Virus Infection	FAX Ⓢ	Poliovirus Infection
Ⓢ !	Cholera	FAX Ⓢ	Psittacosis
Ⓢ !	Ciguatera Fish Poisoning	FAX Ⓢ	Q Fever
	Coccidioidomycosis	Ⓢ !	Rabies, human or animal
	Creutzfeldt-Jakob Disease (CJD) and other Transmissible Spongiform Encephalopathies (TSE)	FAX Ⓢ	Relapsing Fever
FAX Ⓢ	Cryptosporidiosis		Respiratory Syncytial Virus (RSV) ** (Report persons of all ages)
	Cyclosporiasis		Rickettsial Diseases (non-Rocky Mountain Spotted Fever), including Typhus and Typhus-like illnesses
Ⓢ !	Cysticercosis or taeniasis		Rocky Mountain Spotted Fever
Ⓢ !	Dengue Virus Infection		Rubella (German Measles)
Ⓢ !	Diphtheria		Rubella Syndrome, Congenital
Ⓢ !	Domoic Acid Poisoning (Amnesic Shellfish Poisoning)	FAX Ⓢ	Salmonellosis (Other than Typhoid Fever)
	Ehrlichiosis	Ⓢ !	Scombroid Fish Poisoning
FAX Ⓢ	Encephalitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic	Ⓢ !	Shiga toxin (detected in feces)
Ⓢ !	<i>Escherichia coli</i> : shiga toxin producing (STEC) including <i>E. coli</i> O157	FAX Ⓢ	Shigellosis
	Flavivirus infection of undetermined species	Ⓢ !	Smallpox (Variola)
‡ FAX Ⓢ	Foodborne Disease	FAX Ⓢ	Streptococcal Infections (Outbreaks of Any Type and Individual Cases in Food Handlers and Dairy Workers Only)
	Giardiasis		Syphilis
	Gonococcal Infections	FAX Ⓢ	Tetanus
FAX Ⓢ	<i>Haemophilus influenzae</i> , invasive disease, all serotypes (report an incident of less than five years of age)	FAX Ⓢ	Trichinosis
FAX Ⓢ	Hantavirus Infections	FAX Ⓢ	Tuberculosis
Ⓢ !	Hemolytic Uremic Syndrome		Tularemia, animal
FAX Ⓢ	Hepatitis A, acute infection	Ⓢ !	Tularemia, human
	Hepatitis B (specify acute case or chronic)	FAX Ⓢ	Typhoid Fever, Cases and Carriers
	Hepatitis C (specify acute case or chronic)	FAX Ⓢ	<i>Vibrio</i> Infections
	Hepatitis D (Delta) (specify acute case or chronic)	Ⓢ !	Viral Hemorrhagic Fevers, human or animal (e.g., Crimean-Congo, Ebola, Lassa, and Marburg viruses)
	Hepatitis E, acute infection		West Nile Virus (WNV) Infection
Ⓢ	Human Immunodeficiency Virus (HIV) infection, stage 3 (AIDS)	FAX Ⓢ	Yellow Fever
	Human Immunodeficiency Virus (HIV), acute infection	Ⓢ !	Yersiniosis
Ⓢ !	Influenza, deaths in laboratory-confirmed cases for age 0-64 years	Ⓢ !	Zika Virus Infection
	Influenza, novel strains (human)	Ⓢ !	OCCURRENCE of ANY UNUSUAL DISEASE
	Legionellosis	Ⓢ !	OUTBREAKS of ANY DISEASE (including diseases not listed in § 2500). Specify if institutional and/or open community.
	Leprosy (Hansen Disease)		
	Leptospirosis		

HIV REPORTING BY HEALTH CARE PROVIDERS §2641.30-2643.20

Human Immunodeficiency Virus (HIV) infection at all stages is reportable by traceable mail, person-to-person transfer, or electronically within seven calendar days. For complete HIV-specific reporting requirements, see Title 17, CCR, §2641.30-2643.20 and <http://www.cdph.ca.gov/programs/aids/Pages/OAHIVRptgSP.aspx>

REPORTABLE NONCOMMUNICABLE DISEASES AND CONDITIONS §2800-2812 and §2593(b)

Disorders Characterized by Lapses of Consciousness (§2800-2812)

Pesticide-related illness or injury (known or suspected cases)**

Cancer, including benign and borderline brain tumors (except (1) basal and squamous skin cancer unless occurring on genitalia, and (2) carcinoma in-situ and CIN III of the Cervix) (§2593)***

LOCALLY REPORTABLE DISEASES (If Applicable):

Ⓢ = RSV became reportable on November 13, 2002 in San Bernardino County. RSV must be reported within seven (7) calendar days from the time of identification.

* This form is designed for health care providers to report those diseases mandated by Title 17, California Code of Regulations (CCR). Failure to report is a misdemeanor (Health & Safety Code §120295) and is a citable offense under the Medical Board of California Citation and Fine Program (Title 16, CCR, §1364.10 and 1364.11).

** Failure to report is a citable offense and subject to civil penalty (§250) (Health and Safety Code §105200).

*** The Confidential Physician Cancer Reporting Form may also be used. See Physician Reporting Requirements for Cancer Reporting in CA at: www.ccrcl.org.

CDPH 110a (revised 06/2016)

APPENDIX C: REPORTABLE DISEASES AND CONDITIONS (CONTINUED)

Title 17, California Code of Regulations (CCR), Section 2505
REPORTABLE CONDITIONS: NOTIFICATION BY LABORATORIES
(June 2016)

California Code of Regulations, Title 17, Section 2505 requires laboratories to report laboratory testing results suggestive of the following diseases of public health importance to the local health department:

Subsection (e)(1) List	Subsection (e)(2) List
<p>Anthrax, animal (<i>B. anthracis</i>)</p> <p>Anthrax, human (<i>B. anthracis</i>)</p> <p>Botulism</p> <p>Brucellosis, human (<i>all Brucella spp.</i>)</p> <p><i>Burkholderia pseudomallei</i> and <i>B. mallei</i> (detection or isolation from a clinical specimen)</p> <p>Influenza, novel strains (human)</p> <p>Plague, animal</p> <p>Plague, human</p> <p>Smallpox (Variola)</p> <p>Tularemia, human (<i>F. tularensis</i>)</p> <p>Viral hemorrhagic Fever agents, animal (VHF), (e.g., Crimean-Congo, Ebola, Lassa and Marburg viruses)</p> <p>Viral Hemorrhagic Fever agents, human (VHF), (e.g., Crimean-Congo, Ebola, Lassa and Marburg viruses)</p>	<p>Acid-fast bacillus (AFB)</p> <p>Anaplasmosis</p> <p>Babesiosis</p> <p><i>Bordetella pertussis</i> acute infection, by culture molecular identification</p> <p><i>Borrelia burgdorferi</i> infection</p> <p>Brucellosis, animal (<i>Brucella spp. except Brucella canis</i>)</p> <p>Campylobacteriosis (<i>Campylobacter spp.</i>) (detection or isolation from a clinical specimen)</p> <p>Chancroid (<i>Haemophilus ducreyi</i>)</p> <p>Chikungunya Virus Infection</p> <p><i>Chlamydia trachomatis</i> infections, including lymphogranuloma venereum</p> <p>Coccidioidomycosis</p> <p>Cryptosporidiosis</p> <p>Cyclosporiasis (<i>Cyclospora cayetanensis</i>)</p> <p>Dengue virus infection</p> <p>Diphtheria</p> <p>Ehrlichiosis</p> <p>Encephalitis, arboviral</p> <p><i>Entamoeba histolytica</i> (Not <i>E. dispar</i>)</p> <p><i>Escherichia coli</i>: shiga toxin producing (STEC) including <i>E. coli</i> O157</p> <p>Flavivirus infection of undetermined species</p> <p>Giardiasis (<i>Giardia lamblia</i>, <i>intestinalis</i>, or <i>duodenalis</i>)</p> <p>Gonorrhea</p> <p><i>Haemophilus influenzae</i>, all types (detection or isolation from a sterile site in a person less than five years of age)</p> <p>Hantavirus Infections</p> <p>Hepatitis A, acute infection</p> <p>Hepatitis B, acute or chronic infection (specify gender)</p> <p>Hepatitis C, acute or chronic infection</p> <p>Hepatitis D (Delta), acute or chronic infection</p> <p>Hepatitis E, acute infection (detection of hepatitis E virus RNA from a clinical specimen or positive serology)</p> <p>Human Immunodeficiency Virus (HIV), acute infection</p> <p>Legionellosis (<i>Legionella spp.</i>) (antigen or culture)</p> <p>Leprosy (Hansen Disease) (<i>Mycobacterium leprae</i>)</p> <p>Leptospirosis (<i>Leptospira spp.</i>)</p> <p>Listeriosis (<i>Listeria</i>)</p> <p>Malaria</p> <p>Measles (Rubeola), acute infection</p> <p>Mumps (mumps virus), acute infection</p> <p><i>Mycobacterium tuberculosis</i></p> <p><i>Neisseria meningitidis</i> (sterile site isolate)</p> <p>Plague (<i>Yersinia pestis</i>), human or animal</p> <p>Poliovirus</p> <p>Psittacosis (<i>Chlamydophila psittaci</i>)</p> <p>Q Fever (<i>Coxiella burnetii</i>)</p> <p>Rabies, animal or human</p> <p>Relapsing Fever (<i>Borrelia spp.</i>) (identification of <i>Borrelia spp.</i> spirochetes on peripheral blood smear)</p> <p><i>Rickettsia</i>, any species, acute infection (detection from a clinical specimen or positive serology)</p> <p>Rocky Mountain Spotted Fever (<i>Rickettsia rickettsii</i>)</p> <p>Rubella, acute infection</p> <p><i>Salmonellosis</i> (<i>Salmonella spp.</i>)</p> <p>Shiga toxin (detected in feces)</p> <p>Shigellosis (<i>Shigella spp.</i>)</p> <p>Syphilis</p> <p>Trichinosis (<i>Trichinella</i>)</p> <p>Tuberculosis</p> <p>Tularemia, animal (<i>F. tularensis</i>)</p> <p>Typhoid</p> <p><i>Vibrio</i> species infections</p> <p>West Nile virus infection</p> <p>Yellow Fever (yellow fever virus)</p> <p>Yersiniosis (<i>Yersinia spp.</i>, non-pestis) (isolation from a clinical specimen)</p> <p>Zika virus infection</p>

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APPENDIX C: REPORTABLE DISEASES AND CONDITIONS (CONTINUED)

Laboratory findings for these diseases are those that satisfy the most recent communicable disease surveillance case definitions established by the Centers for Disease Control and Prevention (unless otherwise specified in this Section). See also guidance at <http://www.cdph.ca.gov/HealthInfo/Documents/LaboratoryReportableDiseasesInstructionsList-e2.pdf>. All laboratory notifications are acquired in confidence. The confidentiality of patient information is always protected.

WHEN TO REPORT (ALL DISEASES EXCEPT HIV ACUTE INFECTION)

These laboratory findings are reportable to the local health officer of the health jurisdiction where the health care provider who first submitted the specimen is located within one (1) hour (List (e)(1) diseases) or within one (1) working day (List (e)(2) diseases) from the time that the laboratory notifies that health care provider or other person authorized to receive the report. If the laboratory that makes the positive finding received the specimen from another laboratory, the laboratory making the positive finding shall notify the local health officer of the jurisdiction in which the health care provider is located within the time specified above from the time the laboratory notifies the referring laboratory that submitted the specimen. If the laboratory is an out-of-state laboratory, the California laboratory that receives a report of such findings shall notify the local health officer in the same way as if the finding had been made by the California laboratory.

HOW TO REPORT (ALL DISEASES EXCEPT HIV ACUTE INFECTION)

Laboratories can report results via electronic laboratory reporting (ELR) to the California Reportable Disease Information Exchange (CalREDIE). Laboratories unable to submit reports electronically must report on paper to the local health department.

Additional information about CalREDIE ELR can be found here:

<https://www.cdph.ca.gov/data/informatics/tech/Pages/CalREDIEELR.aspx>

Reporting requirements for diseases and agents listed in Subsection (e)(1):

- Make initial report to the local health officer via telephone **within one hour** and
- Report result(s) to CalREDIE **within one working day** of identification.

Reporting requirements for diseases and agents listed in Subsection (e)(2):

- Report result(s) to CalREDIE **within one working day** of identification.

HIV ACUTE INFECTION REPORTING REQUIREMENTS

In addition to routine reporting requirements set forth in section 2643.10, for acute HIV infection reporting, laboratories shall report all cases within one business day to the local health officer of the jurisdiction in which the patient resides by telephone. If the patient residence is unknown, the laboratory shall notify the health officer of the jurisdiction in which the health care provider is located. If evidence of acute HIV infection is based on presence of HIV p24 antigen, laboratories shall not wait until HIV-1 RNA is detected before reporting to the local health officer.

ADDITIONAL REPORTING REQUIREMENTS

ANTHRAX, BOTULISM, BRUCELLOSIS, GLANDERS, INFLUENZA, NOVEL STRAINS, MELIOIDOSIS, PLAGUE, SMALLPOX, TULAREMIA, and VIRAL HEMORRHAGIC FEVERS

Whenever a laboratory receives a specimen for the laboratory diagnosis of a suspected human case of one of these diseases, such laboratory shall **communicate immediately by telephone** with the Microbial Diseases Laboratory (or, for Influenza, novel strains, Smallpox or Viral Hemorrhagic Fevers, with the Viral and Rickettsial Disease Laboratory) of the Department of Public Health for instruction. See also guidance at <http://www.cdph.ca.gov/HealthInfo/Documents/LabReportingInstructionsList-e1SelectAgents.doc.pdf>

TUBERCULOSIS (Section 2505 Subsections (f) and (g))

Any laboratory that isolates *Mycobacterium tuberculosis* from a patient specimen must submit a culture to the local public health laboratory for the local health jurisdiction in which the health care provider's office is located as soon as available from the primary isolate on which a diagnosis of tuberculosis was established.

The information listed under "HOW TO REPORT" above must be submitted with the culture.

Unless drug susceptibility testing has been performed by the clinical laboratory on a strain obtained from the same patient within the previous three months or the health care provider who submitted the specimen for laboratory examination informs the laboratory that such drug susceptibility testing has been performed by another laboratory on a culture obtained from that patient within the previous three months, the clinical laboratory must do the following:

- Perform or refer for drug susceptibility testing on at least one isolate from each patient from whom *Mycobacterium tuberculosis* was isolated,
- Report the results of drug susceptibility testing to the local health officer of the city or county where the submitting physician's office is located within **one (1) working day** from the time the health care provider or other authorized person who submitted the specimen is notified, and

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APPENDIX C: REPORTABLE DISEASES AND CONDITIONS (CONTINUED)

- If the drug susceptibility testing determines the culture to be resistant to at least isoniazid and rifampin, in addition, submit one culture or subculture from each patient from whom multidrug-resistant *Mycobacterium tuberculosis* was isolated to the local public health laboratory (as described above).

Whenever a clinical laboratory finds that a specimen from a patient with known or suspected tuberculosis tests positive for acid fast bacillus (AFB) staining and the patient has not had a culture which identifies that acid fast organism within the past 30 days, the clinical laboratory shall culture and identify the acid fast bacteria or refer a subculture to another laboratory for those purposes.

MALARIA (Section 2505 Subsection (h))

Any clinical laboratory that makes a finding of malaria parasites in the blood film of a patient shall immediately submit one or more such blood film slides for confirmation to the local public health laboratory for the local health jurisdiction where the health care provider is located. When requested, all blood films will be returned to the submitter.

SALMONELLA (Section 2612)

California Code of Regulations, Title 17, Section 2612 requires that a culture of the organisms on which a diagnosis of salmonellosis is established must be submitted to the local public health laboratory and then to the State's Microbial Diseases Laboratory for definitive identification.

Additional Specimens or Isolates to be Submitted to Public Health (Section 2505 Subsection (m)(1) and (m)(2) Lists) The following specimens or isolates must be submitted as soon as available to the local or state public health laboratory:

(m)(1) Specimens:

- HIV-1/2 antigen or antibody reactive sera or plasma submitted as part of a diagnostic HIV test algorithm, as defined in section 2641.57 (see (n) for additional reporting requirements)
- Malaria positive blood film slides (see (h) for additional reporting requirements)
- Measles immunoglobulin M (IgM)-positive sera
- Shiga toxin-positive fecal broths
- Zika virus immunoglobulin M (IgM)-positive sera

(m)(2) Isolates:

- Drug resistant *Neisseria gonorrhoeae* isolates (cephalosporin or azithromycin only)
- *Listeria monocytogenes* isolates
- *Mycobacterium tuberculosis* isolates (see (f) for additional reporting requirements)
- *Neisseria meningitidis* isolates from sterile sites
- *Salmonella* isolates (see section 2612 for additional reporting requirements)
- Shiga toxin-producing *Escherichia coli* (STEC) isolates, including O157 and non-O157 strains
- *Shigella* isolates

Additional Reporting Instructions for (m)(2) Isolates (Section 2505 Subsection (m)(3)):

If there is a laboratory test result indicating infection with any one of the pathogens listed in (m)(2), including identification of Shiga toxin in a clinical specimen, then the laboratory must attempt to obtain a bacterial culture isolate for submission to the public health laboratory in accordance with (m)(2). The laboratory shall take steps necessary to obtain an isolate, including requesting that additional specimens be collected and sending specimens to a laboratory able to carry out bacterial culture as soon as possible.

Additional Reporting Instructions for HIV-1/2 Specimens (Section 2500 Subsection (n)):

A laboratory which receives a specimen that is reactive for HIV-1/2 antigen or antibody shall communicate with the Department's Viral and Rickettsial Disease Laboratory for instructions on the specimen submission process. A laboratory shall also submit the Clinical Laboratory Improvement Amendments number.

APPENDIX D: FOOTNOTES

- (1) Pelvic Inflammatory Disease (PID) does not include chlamydial PID or gonococcal PID, which are shown separately under chlamydia and gonococcal PID respectively. PID cases for which the etiologic agent is determined to be *Chlamydia trachomatis* or *N. gonorrhoeae* are included in the total number of cases of chlamydia and gonorrhea, respectively.
- (2) Diagnosis of cholera is confirmed by isolating *Vibrio cholerae* from feces, and is distinguished from isolation of other *Vibrio* species that also cause gastrointestinal disease and are counted as *Vibrio* Infections in this report.
- (3) Midway through 1992, penicillinase-producing *Neisseria gonorrhoeae* (PPNG) was no longer tested for in the Public Health Department Laboratory and are thus no longer tallied as a separate category.
- (4) Effective June 12, 2007 invasive *Haemophilus influenzae* occurring in patients 15 years of age and older is no longer a reportable condition.
- (5) Effective December 1, 1998, at the request of the California Department of Health Services, individuals with hepatitis C antibody who do not meet the criteria to be reported as hepatitis C acute are to be reported as hepatitis C carrier.
- (6) This category of bacterial meningitis does not include *Neisseria meningitidis*, which is reported separately as meningococcal meningitis or meningococemia.
- (7) Numbers of HIV cases reflect all individuals who tested newly positive in a given year, regardless of their AIDS status in the same year.

APPENDIX E: DATA SOURCES

Communicable Disease (CD) Incidence Data (For all CDs except AIDS and HIV)

San Bernardino County

- San Bernardino County CD records.

California

- CD Data (2015): *Yearly Summary Reports of Selected General Communicable Diseases in California 2011-2015*, CDPH Surveillance and Statistics Section, August 2016. Available at <http://www.cdph.ca.gov/data/statistics/Documents/YearlySummaryReportsOfSelectedGeneralCommDiseasesInCA2011-2015.pdf>
- Rabies 2014. Rabies Surveillance in California Annual Report 2014, CDPH Veterinary Public Health Section, April 2016. Available at <http://www.cdph.ca.gov/healthinfo/discond/pages/rabies.aspx>
- STD 2015. *Sexually Transmitted Diseases in California, 2015*. California Department of Public Health, STD Control Branch, September 2016. <http://www.cdph.ca.gov/data/statistics/Documents/STD-Data-All-STDs-Tables.pdf>.
- Tuberculosis (2015). Tuberculosis Control Branch, 2015 Provisional California TB Tables. Available at <http://www.cdph.ca.gov/data/statistics/Pages/TuberculosisDiseaseData.aspx>
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United States

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